

The background of the book cover is a photograph of a coastal landscape at sunset or sunrise. In the foreground, a grassy hillside slopes down towards the sea. A herd of dark-colored cattle is grazing on the hill. To the right, a circular Neolithic structure with a conical thatched roof stands on the grass. The interior of the structure is lit with a warm, golden light. The middle ground is filled with a dense line of green trees. In the background, the calm sea meets a sky filled with soft, white and pinkish clouds. The horizon is visible in the distance. In the top left corner, there is a dark olive-green rectangular box containing the publisher's name.

OXFORD

The Birth of
Neolithic Britain

An Interpretive Account

JULIAN THOMAS

THE BIRTH OF NEOLITHIC BRITAIN

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An Interpretive Account

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Introduction: The Problem

The beginning of the Neolithic is a topic of perennial interest in British archaeology. At some time towards the end of the fifth millennium BC, domesticated animals, cultivated crops, pottery vessels, flint mines with deep shafts, certain types of polished stone tools and particular kinds of field monuments can be recognized for the first time on the British mainland. The implication must be that a radically new set of social practices had become established by this time. These material innovations had already been present in the northern and western margins of continental Europe for some time, and it follows that this period saw their transfer onto the offshore archipelago, rather than the independent generation of an entirely new way of life. Novel resources and cultural forms need not all have arrived at precisely the same time, but it seems probable that most of them were first introduced within a relatively short interval. Exactly how this took place has been a matter of continuing debate for some decades. In recent years much of the discussion has revolved around the relative importance of Neolithic colonists and indigenous Mesolithic people, and the extent to which the adoption of agriculture represented a fundamental base to which all other developments were subsidiary, or merely one change amongst others. Each year, an already huge literature is swelled by publications on aspects of the Mesolithic-Neolithic transition ranging from cultivation and herding (Rowley-Conwy 2004a) to ceramics (Cleal 2004; Sheridan 2010a), from diet (Richards and Hedges 1999) to chronology (Whittle 2007a; Collard et al. 2010), and from seafaring (Garrow and Sturt 2011) to climate change (Tipping 2010). This book represents an attempt to draw this material together, and to provide a coherent narrative for the transformation that overtook the island, while at the same time offering a view of what kind of phenomenon the Neolithic was by the time that it arrived in Britain.

Seeking to offer a synthetic account of British ‘Neolithization’ is a daunting task, and not merely because the very rich debate on the subject is still supported by a rather uneven evidence base (Whittle 1990a: 209). A more profound difficulty is that on close inspection the discussion resolves itself into a series of different arguments, which operate at different levels of spatial and temporal resolution. So questions of the spread of farming at the continental scale (Bellwood 2005), or of population-level genetic changes (M. B. Richards 2003) are not always easy to marry with localized investigations of cultural sequences and settlement patterns (for example, Whittle 1990b; Sturt 2010). The reason for this is that ‘Neolithic’ is a deeply protean term, which can refer to a particular subsistence economy, a level of technological development, a chronological interval, a specific set of cultural entities, to racial or ethnic identities, or to a specific type of society. As a

consequence, a series of different kinds of archaeology (as well as other disciplines) converge in their interest in the Mesolithic-Neolithic transition, but are often conversing at crossed purposes. One upshot of this is that at a particular point in prehistory, a series of different kinds of transformation are simultaneously understood to have been taking place: changes in economic practice, in social organization, in material elaboration, in landscape use, and in population structure. Each of these can be presented as fundamentally important stages in human development. The Neolithic is variously described as the time when human beings ceased to live *in* nature and instead gained control *over* nature; the time when food gathering gave way to food production; the time when wandering bands were replaced by stable village communities; and the time when people began to inhabit a material world that they had crafted for themselves. Without wishing to erase the significance of the onset of the Neolithic, it may be that these various narratives impose an inflated set of expectations on the evidence, and make it more difficult for subtler accounts of the period to emerge.

Part of the objective of this volume is to tease apart the different aspects of the Neolithic transition, while at the same time attempting to integrate very different forms of evidence. To that end, the first three chapters of the book are concerned with the continental sequence, and the character of change in a number of different European regions. This is an essential preparation for an investigation of the British material, both as a way of addressing the historical and cultural circumstances under which Neolithic innovations arrived, and as a means of identifying the *kind* of Neolithic that had developed by the later fourth millennium BC. Working at the continental level, it would be easy to portray the Neolithic as a unified and homogeneous phenomenon. However, the objective of these chapters is to reveal the distinctiveness of the developments that took place in different parts of Europe. Indeed, if there is any commonality to Neolithic societies across the continent, we will tend to find it in the social relationships that constrained and facilitated everyday activity, rather than a uniform set of economic practices or residential patterns. The unique character of the Neolithic transitions that took place in different regions can partly be attributed to local social and ecological conditions, but it is equally important to recognize that rather than having a fixed set of attributes the Neolithic was repeatedly transformed as it progressed through time and space. The Neolithic was a historical phenomenon, in other words, and underwent a series of non-reversible, directional changes. It was as much a process as an entity, and the Neolithic of Britain was quite different from that of the Balkans or Central Europe. Placing the British Neolithic into its context involves both appreciating the diversity of regional transitions and identifying a series of overarching developments that took place at a pan-regional scale. Some readers will undoubtedly find the focus of the European chapters on social and economic *processes* rather than patterns of cultural similarity and difference unsatisfactory. However, it is the intention of the work to be interpretive or explanatory, rather than merely descriptive.

As well as forming a common focus of interest for economic, evolutionary, ecological, culture-historic, symbolic, and social forms of archaeology, the question of how and why the Neolithic began in Britain has been a sensitive barometer of archaeological opinion over the past century or so. Different kinds of interpretations have been favoured by different generations of archaeologists, and it is

unsurprising for instance that the culture-historians of the 1920s to the 1960s principally focused on folk movement as a mechanism of change (e.g. Childe 1940: 34; Piggott 1954: 16), while their processual successors emphasized instead the relationships between population, resources and technology (e.g. Renfrew 1973a: 138). In order to grasp why particular conceptions of Neolithization have come to prevail in the present it is important to understand how the arguments have developed over this period, and to that end a lengthy chapter will be given over to historiography. Similarly, it will be argued that, whether we choose to see Neolithic innovations as having been introduced by a migrating population or adopted by indigenous people, it is essential to understand the Mesolithic background against which these developments took place. However, no apology is offered for taking the view that indigenous communities were actively involved in transforming their own conditions of existence. It is hoped that this book will gain coherence by being structured as an argument, which maintains that the fundamental process at work at the start of the British Neolithic was the transformation of Mesolithic societies. However, it is absolutely *not* suggested that this process was spontaneously, internally generated, and it is all but impossible to imagine that such a change could have taken place if groups who had access to domesticates and Neolithic material culture had not been present on the Atlantic coasts of Europe. In this sense at least, the British Neolithic should be understood as a co-creation of indigenous Mesolithic and continental Neolithic communities. This co-creation emerged from a kind of dialogue conducted across the open seas, and in Chapter Eight the significance of interaction between societies of different kinds is assessed. The key argument that is made is that rather than seeing the seas that surround Britain as a barrier to movement and contact, they should be understood as a transformative space, which altered the identities of people, artefacts, and animals. Travelling across the English Channel or the North Sea in prehistoric times would not have been without peril, but it would have been precisely this that gave prestige to seafarers and value to goods that had crossed the ocean.

As much as any of the material discussed in Chapter Five, this volume is a product of the time at which it was written, and an important aspect of this is that it belongs to what may come to be referred to as the immediately 'post-*Gathering Time* era' of Neolithic studies. That is, it was completed in the wake of Whittle, Healy and Bayliss' (2011) fundamentally important revision of the chronology of the earlier Neolithic in Britain, which was based upon the Bayesian modelling of radiocarbon dates. This new temporal framework is broadly adopted here, even if not all those authors' conclusions are accepted. The *Gathering Time* chronology clearly demonstrates that we can now identify a 'primary Neolithic', dating roughly to the period between the forty-first and the thirty-seventh centuries BC. This is essentially the period with which this book concerns itself. But equally importantly, it is evident that this period of four centuries or so was not internally homogeneous, characterized by a series of attributes which all changed abruptly at the start of the mature Early Neolithic. On the contrary, at the start of the period Neolithic artefacts and practices were only present in the extreme south-east of Britain, and they moved northwards and westwards at an uneven rate, while large timber buildings were not continuously being built in all regions throughout the period.

Timber halls and houses are one of the specific elements of the Neolithic material assemblage that are addressed at some length in the latter part of the volume. It is by linking house building with the anthropological notion of 'house societies' that one of the most important aspects of the British Neolithic begins to be revealed. Our discussion of hunting and gathering societies demonstrates that their resistance to agriculture is often vested in social mechanisms that preclude the accumulation of goods and the development of social inequality. The *building* of the house brings into being a bounded community who have shared rights to a body of property. Corporate social groups of this kind can resist the demands of others for a share of their wealth or produce, and are inherently competitive. But equally important is the role of material things in this kind of social formation. The purpose of the house (or even, as we shall see, the *memory* of the house) is to provide a constant, durable entity to which successive generations of a community attach themselves. That is, architecture represents a source of continuity for social groups.

In successive chapters, it is demonstrated that other aspects of the Neolithic way of life also had the effect of 'defining and strengthening the social bond', as Strum and Latour (1987: 795) have it. Where Mesolithic people had a limited range of artefacts and rich but discontinuous interactions with animals, Neolithic people used material things to mediate social relations to a greater extent (particularly in exchange transactions), and incorporated animals into their societies. The conclusion of the book is that the Neolithic is best understood as a social (rather than primarily ideological or economic) transformation, but that social relations and economic practices cannot be disentangled from one another. It is certainly not argued that some form of ideological change paved the way for a separate economic change, as Rowley-Conwy (2004a: 97) has inferred. The Neolithic involved a change in the social relationships between humans and non-humans, where the latter includes artefacts, architecture, plants, and animals. Where Mesolithic societies were primarily sustained by the continual ebb and flow of relationships between persons and other persons, Neolithic sociality was 'splinted' and canalized by relationships between people, animals and things that had been rendered more durable. Neolithic social relationships were no more complex than those of the Mesolithic, but more kinds of entities were now integral to society.

The Neolithization of Southern Europe

INTRODUCTION

It is well established that the beginnings of agriculture in the Old World took place in south-west Asia, and that the process by which people initially established closer relationships with plants and animals was a protracted one (Binford 1968; Flannery 1969; Bar-Yosef and Meadow 1995: 65; Bellwood 2005: 44; Barker 2006: 104). A rather separate set of issues and problems attends the transfer of domesticates out of this heartland and into the very different ecological and social conditions of continental Europe. Arguments have been raised for various kinds of causality in bringing about the introduction of exotic practices of plant and animal husbandry, ranging from population pressure and climatic change to the transformation of ideological structures. Very often what is presented as a universal causal motor of change loses its credibility when it is placed alongside the evidence for specific regions. Different explanations have tended to be preferred in different parts of the continent, and it is an open question how far this reflects diverse local traditions of archaeological investigation and interpretation, and how far we can identify different processes at work in the past. These issues are worth addressing, because what is at stake is our understanding of the Neolithic itself (Zvelebil 1989: 382). In this context, it may be helpful to draw a distinction between farming, a variety of economic systems that involve the management of plants and animals and control over their fertility, and the Neolithic as a kind of society that is often, but not always, associated with agriculture. Neolithic societies were diverse, but generally differed from their Mesolithic precursors in consisting of heterogeneous assemblies of humans and non-humans: people, livestock, artefacts, architecture and land, so that relations between persons were mediated by, sustained by, channelled through and delegated to a variety of other kinds of entities. This altered form of sociality facilitated the collective appropriation of resources by increasingly bounded social groups. Just as capitalism and industrialization often co-occur but are not quite the same thing, so farming and the Neolithic are logically independent. Yet most of the earliest farmers of Europe had a Neolithic form of organisation, and most Neolithic societies were farmers—although some were able to conduct an intensified exploitation of wild resources within a Neolithic framework (Borić 2007: 106).

Where farming and the Neolithic are identified as a single unified phenomenon, this entity is often considered as having been homogeneous throughout Eurasia, and sometimes as having been underlain by some other consistent factor, such as a shared conceptual order or a demographic process. The polar opposite of

this perspective would lie in identifying the Neolithic less as an unchanging entity than as a chain of linked events and circumstances, without any invariant content. Thus in different parts of the continent the introduction of domesticated plants and animals might have been attributable to entirely different forces: population movement, ecological change, social competition, or demography (Bogucki 1996: 242). Moreover, in some areas the appearance of domesticates might have been a side effect of other processes altogether.

In practice, this volume will argue for a middle position, in which the European Neolithic is seen neither as wholly invariant nor entirely locally context-bound. In the next three chapters I briefly review the beginnings of the Neolithic in a range of different geographical contexts throughout the European continent. The intention will not be to provide comprehensive coverage so much as to demonstrate the variability of Neolithic ways of life. Different combinations of resources can be identified as having been exploited, different assemblages of material culture were in use, and different social arrangements are evident. Despite this, it is possible to recognize a general historical trajectory, in that the changes that took place in any particular area were conditioned by the combination of pre-Neolithic circumstances, parallel social processes, and the specific range of novel innovations that were introduced from outside, whether by contact or by population movement. This afforded the overall process a directional character, so that as Neolithic ways of life were established throughout the continent, they became progressively more distinct from the 'founding' Neolithic of the eastern Mediterranean. Within this gradual trend toward differentiation, distinct horizons of more profound change can be identified. Rather than a continuous westward drift, the spread of the Neolithic into Europe was characterized by the alternation of periods of rapid change and relative stasis (Barrett 2011: 79). It will be argued that these horizons of change were generally accompanied by structural transformation, so that different 'kinds' of Neolithic distinguished can be identified in different parts of the continent. Thus the Balkan Neolithic was different in qualitative ways from the Neolithic of Central Europe, and this in turn was distinct from the Neolithic of the Atlantic zone. A cumulative objective of these first three chapters is to situate the British Neolithic at the end of this sequence of transformations.

In making such an argument one could be accused of allowing any coherent and consistent definition of 'the Neolithic' to slip away. As already indicated, it certainly requires that a simple equation of 'Neolithic' with 'agriculture' is inadequate. What took place in Europe between the seventh and third millennia BC involved rather more than the spread of farming, and indeed it is not clear that 'farming' represented a stable phenomenon throughout this period. Changes in material culture were obviously of fundamental importance, and were far more than a symptom or surface effect of developments in subsistence practice. Moreover, the extent and character of economic change was highly variable. However, rather than arguing that the Neolithic transition in Europe was simply a string of contingent happenings, at least one consistent element will be proposed in this account. We will argue that not all European societies invested in novel resources to the same extent. However, it is arguable that *any* adoption of domesticated plants or animals would have required a transformation of social relations, in order to accommodate divided access to resources. Although it is not suggested that Neolithic social structures were uniform across the continent, it is probable

that the advent of the Neolithic, wherever it occurred, always involved a significant adjustment of the nexus of relations between persons, animals and land. As noted above, these relationships were embedded in an increasingly elaborate array of material things, to a greater extent than in the Mesolithic. The argument advanced here is that while Mesolithic societies were largely composed of relations between persons and persons, Neolithic social relations bound people more tightly to animals and to artefacts. These relationships did not so much determine the plants and animals that were cultivated or herded as influence the character of their exploitation.

In the next two chapters, regional evidence will be outlined, before a series of larger-scale trends are evaluated in Chapter Four. Although the intention here is to provide some level of narrative, so that the progressive transformations of the Neolithic can be appreciated, it is also hoped that the different patterns revealed in the various parts of the continent will also constitute a series of comparative case studies against which the British evidence can be set. Throughout the remainder of the book, these examples will be drawn on in order to tease out the particularity of the British situation. So although what follows will trace the spread of domesticated plants and animals and the elaboration of material culture across Europe, we will also be laying out a series of parallel developments, in which the relations between Mesolithic and Neolithic communities, ecological conditions, and historical circumstances varied in significant ways.

GREECE AND THE SOUTHERN BALKANS

Traditionally, it has been argued that the beginning of the Neolithic in the Balkan Peninsula involved migrants from Anatolia wandering into a virtually unoccupied landscape (Merkyte 2003: 307). While Greece in particular has a series of rich Palaeolithic cave sequences, many of these come to an end before the postglacial, fuelling the perception that the area had been largely abandoned during the Mesolithic (Demoule and Perlès 1993: 364). Although the environmental changes of the Holocene may have been less dramatic than those in northern Europe, the emergent extensive landscapes of unbroken woodland without marshes, lakes or major rivers might have proved unattractive to hunting and gathering communities who valued the combinations of resources afforded by juxtaposed ecological zones (Whittle 1996: 13). It is unlikely that the kind of high-density, semi-sedentary Mesolithic occupation identified in parts of northern and western Europe was manifested in the southern Balkans, yet although hunter-gatherer activity may have been patchy (e.g. van Andel and Runnels 1995: 494; Runnels 2003: 126; Runnels et al. 2005: 260) it was not altogether missing. The Balkan Peninsula had, after all, represented a refugium during the last glacial maximum, and there is no strong reason why it should have become entirely depopulated. It is probable that some coastal Mesolithic sites have been lost to sea-level rise (Zvelebil and Lillie 2000: 69), while elsewhere the traces of highly mobile hunting groups are likely to have been extremely ephemeral, amounting to no more than scatters of stone tools. Few research projects in these regions have been devoted to locating this kind of material, owing in some cases to a culture-historic emphasis

on the development of Neolithic cultures, while in some areas it is possible that it is masked by alluvial deposits (Merkyte 2003: 307; Radovanović 2006: 108). This contrasts with the comparative archaeological visibility of Neolithic tell settlements (Kotsakis 2001: 66). Moreover, it is likely that the methodologies devised for multi-period survey in the Mediterranean would often miss Mesolithic sites (Runnels et al. 2005: 281). Despite these unpromising circumstances, Mesolithic sites have been identified at the caves of Franchthi, Koukoi and Ulbrich, and at Kleisoura Gorge and Kandia in the Argolid, at Zaïmis Cave in Attica, at Theopetra Cave and Grevena in Thessaly, at Boila in the Pindos, at Sidari on Corfu and Maroula on Kynthos, as well as on the islands of Yiora and Alonnisos. Mesolithic material has also come from on the Kryegjata Ridge in Albania, caves and rock-shelters in Montenegro, Durankulak on the Black Sea coast, Agaçlı in Turkish Thrace, the Pobiti Kamini hills of Bulgaria, and the Bosnian limestone karst (Bailey 2000: 35; Kiparissi-Apostolika 2000: 134; Fiedel and Anthony 2003: 156; Merkyte 2003: 308; Runnels et al. 2005: 259–60) (Fig. 2.1).



Fig. 2.1. Map of sites in Greece and the Balkans mentioned in the text (drawn by Joanna Wright, from Whittle 1996 and Bailey 2000)

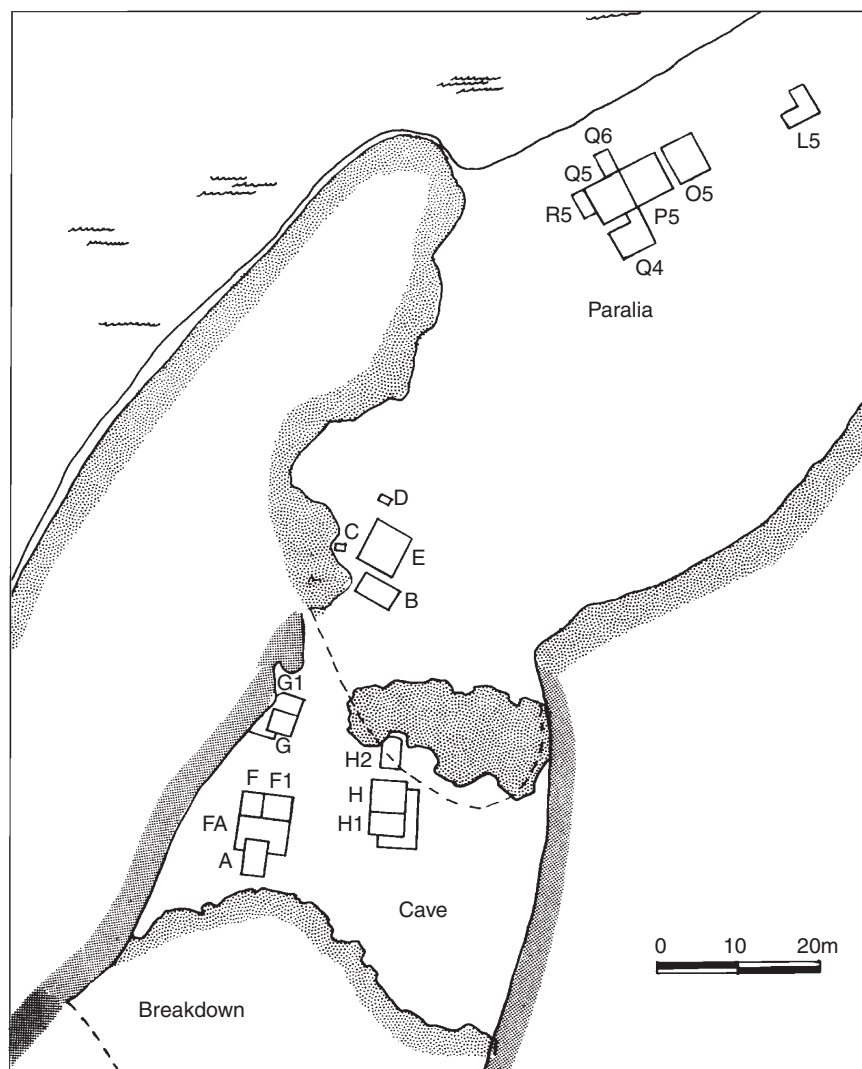


Fig. 2.2. Excavated areas of Franchthi Cave (from Hansen 1999, permission to reproduce applied for from CNRS)

Of all these sites, by far the most intensively investigated has been the Franchthi Cave (Jacobsen 1969) (Fig. 2.2). Located in the south of Greece, its early Holocene surroundings were scrubland rather than the dense forests of the north. Here people hunted red deer and wild boar, and gathered wild barley, lentils, and marine and terrestrial molluscs (Hansen 1999: 156). But from around 7900 BC, these other sources of food were eclipsed by tunny fish, whose bones occur in large numbers in the cave. The impression is that fish were being caught at sea, processed and stored. That the users of Franchthi Cave were seafarers is also implied by an increase in the occurrence of obsidian from the Cycladic island of

Melos at this time (Cullen 1995: 273; Perlès 2001: 20). The presence of numerous human remains, including one articulated burial, suggests that a group of people had formed a specific attachment with the cave during the early Mesolithic, but both the incidence of bones and general evidence of occupation declined after 7000 BC (Cullen 1995: 274; Perlès 2001: 28). This may mean that the mobility of this particular community increased at this point.

In the course of the seventh millennium BC, a range of domesticates and new artefact types became established in the Balkans, although their spatial distribution was patchy, and not all elements were present in all regions (van Andel and Runnels 1995: 481; Whittle 1996: 46). While cattle, pig, lentils and barley were all present in wild form in Greece, their domesticated equivalents appear to have been introduced from south-west Asia together with sheep, goats, and emmer and einkorn wheat (Benecke 2006: 182). Significantly, these species were all being transferred into landscapes that were not entirely dissimilar from those in which they had been domesticated (Halstead 1989: 26). Ceramics, lithic assemblages dominated by large, pressure-flaked blades, polished stone axes, ceramic figurines and settlements of rectangular above-ground houses appeared simultaneously, and can also claim Near Eastern antecedents (Runnels 2003: 122). However, there is debate over the extent of the affinity between the artefact styles of Greece and Bulgaria and those of Anatolia and the Levant, with opinions ranging from precise identity to 'vague resemblance' (Kotsakis 2001: 70, 2005: 12; Çilingiroğlu 2005: 5). A case in point is provided by stamp seals, which were apparently introduced to Greece and the Balkans from Anatolia, although precise matches in the motifs used in the two areas are rare (Skeates 2007: 186). The character of the earliest Neolithic presence in Europe is also a matter of some dispute. A few sites, such as Franchthi and Theopetra caves and the shell midden of Sidari demonstrate continuity of occupation and of lithic industry from Mesolithic to Neolithic (Perlès 2001: 49; Vlachos 2003: 135). Yet it is not always clear whether they also saw continuity in the character of use (Kyparissi-Apostolika 1999: 150). Some areas with a number of Mesolithic sites, such as Attica and Epirus, were sparsely occupied during the Neolithic, while others like the alluvial basins of Thessaly and Greek Macedonia have many Neolithic sites but little Mesolithic evidence. As we have seen, these contrasts may be partially attributable to taphonomic conditions and archaeological visibility. In the specific case of northern Greece, Thissen (2000: 144; see also Kotsakis 2001: 67) suggests that critical evaluation of the radiocarbon evidence from Sesklo, Achilleion and Nea Nikomedeia reveals that they may be a little later than the earliest Neolithic activity at Franchthi in the south, while Fiedel and Anthony (2003: 153) argue that the arrival of large numbers of colonists from Asia may have been prefigured by archaeologically ephemeral 'scouting' episodes.

While Ammerman and Cavalli-Sforza's model of demic diffusion (see Chapter Four) is largely discounted in the case of the southern Balkans, many scholars appear to support the argument for selective, planned, 'leap-frog' colonization of favourable areas (e.g. van Andel and Runnels 1995; Perlès 2001: 56; Perlès 2003: 108). Analysis of Early Neolithic radiocarbon dates from Greece has been interpreted as indicating the relatively abrupt appearance of a farming population (Gkiasta et al. 2003: 59). The clearest evidence for a planned settlement scenario lies in the case of Crete, which was permanently occupied for the first

time at the start of the Neolithic: rather earlier than some of the other Aegean islands, which were less well suited to agricultural settlement (Cherry 1981: 52). While the island may have been visited during the Mesolithic, at some time before 6500 BC sheep, goats, pig, cattle, and bread wheat became established in mutual association. It is argued that this could only have been achieved by a highly organized, long-distance maritime expedition (Broodbank and Strasser 1991: 235–9; Broodbank 1999: 20). If this is the case for Crete, others argue that something similar might have occurred in the Larisa Basin of Thessaly, where very large numbers of Neolithic settlements appear to emerge as if from nowhere in the period before 6300 BC. An initial movement of population into Thessaly could have seeded very rapid growth, with inter-dependent and cooperative village communities spreading out evenly across the lowlands over a few generations (Perlès 1999: 54). However, there is very little agreement as to where the initial burst of population movement might have come from: south-central Anatolia, western Anatolia, Cyprus and the Aegean Islands have all been suggested (van Andel and Runnels 1995: 495; Hansen 1999: 165; Thissen 2000: 150; Perlès 2001: 56), while on the basis of the combination of the crops grown in each area, College, Connolly and Shennan (2004: 47) argue that Cyprus, central Anatolia, Crete and Greece were all colonized directly from the Levant. Northwest Anatolia and Turkish Thrace, geographically the most obvious route from Asia to Thessaly, are unlikely to have contributed a migrant population (Thissen 2000: 141). On both sides of the Sea of Marmara, the establishment of Neolithic settlements (Ilipnar, Fikirtepe, Hoca Çesme, Mentese) appears to have been no more than a century earlier than the Greek earlier Neolithic, and even the Konya Plain shows little indication of major population growth (Whittle 1996: 44; Thissen 1999: 31; Erdogu 2000: 164). These sites possessed a full range of Neolithic innovations, and their sudden appearance is comparable with developments in Thessaly (Roodenberg and Alpaslan-Roodenberg 2008: 8).

Runnels and van Andel (1988) have made a case that the fertile lowlands of Thessaly were identified by farming communities in Anatolia as a location that could be used to increase production for exchange. This would mean that migration into the region was not caused by demographic pressure. The potential flaw in this argument is that Early Neolithic Greek agriculture was conducted on a subsistence basis, save for intra-community feasting. Production for exchange only became a major issue later on, with the introduction of olive and vine cultivation, centralized sheep flocks, metalwork and wheel-made pottery (Halstead 1994: 207–8). Van Andel and Runnels' further suggestion that the initial emplacement of farming communities was followed by gradual growth until population 'overflowed' into Vardar Macedonia (1995: 497) harmonizes with Perlès' view that the colonists were 'small groups of adventurous individuals, who did not carry, possess or choose to retain the whole technical or cultural heritage of their original communities' (2001: 62). But this raises another problem: how are we to distinguish between small groups of Neolithic colonists with a propensity to high fertility, and equally small indigenous communities who have adopted agriculture, and in the process changed their demographic characteristics? After all, if it is the demands of a highly mobile way of life that encourage the regulation of fertility in hunter-gatherer societies, these might easily be relaxed on settling down (Stott 1962; Sussman 1972). Even allowing that Mesolithic people

may not have lived in the fertile lowlands, they might have chosen to shift into them when they began to make use of domesticates (Kiparissi-Apostolika 2000: 138).

Undoubtedly, maritime contacts linked different parts of the eastern Mediterranean long before the expansion of agriculture. The circulation of obsidian over considerable distances was well developed during the Mesolithic (Robb and Farr 2005: 36). This activity probably only amounted to a small part of extensive maritime 'scouting' on the part of Mesolithic groups, developing a familiarity with much of the Aegean, if not any permanent transfer of personnel from place to place (Broodbank 2006: 208). The resulting interaction between agricultural and hunter-gatherer groups might have provided the mechanism by which the latter gained access to domesticated plants and animals, but it might equally have been the means by which Neolithic people acquired information about attractive areas to settle (Thissen 2000: 151). So if a movement of population from western Asia to Europe was involved it is most likely to have been one that involved the knowing cooperation of indigenous groups. This would seem to encourage the speculation that the start of the Greek and Bulgarian Neolithic was prefigured by exchanges of personnel (in marriage, for instance) as well as materials between the Balkans, the Levant, and Anatolia. The transfer of livestock, crops and people would then take place within established social relations, rather than in the form of an 'invasion'. The character of these processes need not have been homogeneous: the case for an influx of new people is most convincing in Thessaly and south-central Bulgaria, where tell settlements similar to those of western Asia began to emerge (Bailey 2000: 48). In southern Greece, Mesolithic occupation had been more in evidence, and Neolithic activity was less intensive and more focused on the sea (Thissen 2000: 142; Halstead 2005: 45). The possible continuity between Mesolithic and Neolithic at Franchthi Cave hints that in some parts of the south the new artefacts and resources were adopted by indigenous people. It is even conceivable that this Mesolithic heritage lay behind the characteristic structure of Early Neolithic settlement in the south, in which villages were more dispersed and more autonomous, and as a result may have enjoyed less explosive population growth (Cavanagh 2004: 182).

The initial Neolithic at Franchthi involved the sudden appearance of sheep and goats, emmer and einkorn, large domesticated lentils and two-row barley (Hansen 1999: 156). Yet the lithic assemblage was still essentially a Mesolithic one (notches, end-scrapers, denticulates) with the addition of blades and bladelets (Perlès 2001: 46). The sparse sherds of pottery from these contexts are especially significant: Vitelli argues that they indicate the experimental manufacture of small numbers of vessels by novice potters (1995: 55). The irregular surfaces of the pots had been smoothed out by burnishing, and a variety of fillers had been employed in a tentative manner. Yet these vessels were clearly of considerable significance, having been drilled for repair. None had marks of sooting indicative of use in cooking, and Vitelli suggests that they may have contained potions, medicines and poisons, or have been used to keep grain safe from rodents (1989: 26). The subsequent development of Franchthi, toward the more large-scale production of better-quality, more elaborate pottery and a more characteristically 'Neolithic' chipped stone assemblage neatly demonstrates a key theme in the Neolithization of the south Balkans: in some areas the Neolithic arrived fully-formed, but in

others it was piecemeal and informal, only achieving greater coherence over time. These issues are connected to the question of whether a 'pre-pottery Neolithic', equivalent to that of the Levant, ever existed in Greece (Bennet and Galaty 1997: 82). It may be that this problem involves a confusion of cultural conditions with a chronological horizon. Sites such as Sesklo, Soufli Magoula, Argissa, and Knossos have little pottery rather than none at all, and as at Franchthi this is generally unsooted (Perlès 2001: 73). These sites probably have in common a condition in which pottery was a scarce and highly-valued material, rather than all being precisely contemporary manifestations of a pre-pottery stage, indicative of the arrival of PPNB migrants from south-west Asia, prior to the onset of a 'full Neolithic'.

The tell settlements of Thessaly, Macedonia, and Bulgaria clearly represented a form of life that was quite unlike any previous one in Europe, yet which had precedent in south-west Asia (Fig. 2.3). The combination of long-term commitment to a particular location and the repetition of house-building on a precise site gradually resulted in the development of village mounds rising above the plains and river terraces (Bailey 1996: 146). The presence of the remains of the dead, buried beneath and between the houses, further emphasized the embedding of co-resident groups into a specific place through the generations. On the basis of livestock kill-off patterns Halstead (2005: 43) argues for the year-round occupation of the Thessalian tells, although Whittle (1996: 47) suggested that they might form fixed points from which a variety of projects radiated out across the landscape, and to which people repeatedly returned at varying intervals (see also Bailey 1999: 95). For Bailey (2000: 47) this kind of settlement represents a new kind of social environment, whose emergence was just as important as the introduction of domesticated plants and animals. For while the latter required people to acquire new kinds of knowledge and to adopt a new regime of everyday practices, the architecture of rectangular houses set close together and often bounded within walls and ditches imposed a structure on these practices. New routines and habits were configured and reaffirmed by constructed space, and in the close-set yet enclosed spaces of the village a complex combination of intense social interaction, intimacy, and seclusion would develop. Chapman (1997: 143) emphasizes the potential of such a situation to generate friction and conflict, the resolution of which might depend upon custom and tradition, sanctioned by the presence of the past in the form of the ancestral dead contained in the fabric of the tell, and the re-used wooden beams and fragments of burnt daub incorporated into each new rebuilding of the houses. Similarly, the deliberate destruction of houses on the death of a significant occupant served to bind the life-cycle of the community to that of the settlement space (Chapman 1999: 119).

Social inequality and positions of authority in these settlements need not always have been particularly marked, but it seems likely that there would have been much emphasis on adherence to social norms. The occurrence of large numbers of ceramic anthropomorphic figurines within these contexts of high-density interpersonal contact may be a further indication that social roles, identities and modes of conduct were vexed issues (Bailey 2005: 197). Taken together, these new 'practices of dwelling' produced a new form of sociality, imposed on Greece and Bulgaria as if from outside, whether it was adopted by indigenous people or introduced by migrants. Halstead (2011: 144) presents this new material world

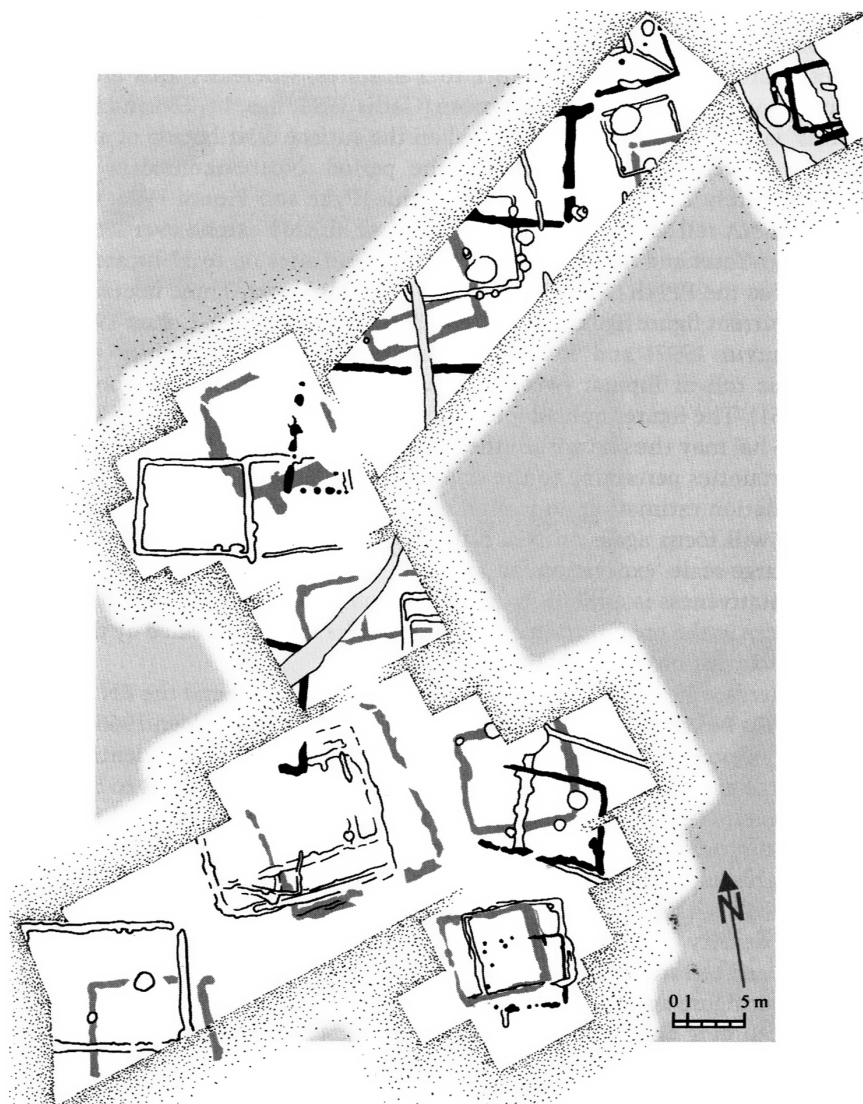


Fig. 2.3. Plan of the Early Neolithic settlement of Nea Nikomedeia, in Central Macedonia (after Perlès 2001)

as a means of negotiating the inherent tensions of an ‘early farming mode of production’. Without adopting the notion of a ‘domestic ideology’ which he presents as the principal alternative perspective on these developments (e.g. Hodder 1990: 54), we might argue that this new kind of sociality, embedded in the materiality of houses, pottery and other material things, was actually integral to (and even a precondition for) a new subsistence system based in divided access to resources. Here, labour, skill, tools, animals and tillage plots are contained within a micro-community that contrasts with the more fluid but extensive social

networks of the Mesolithic. That houses and pottery became progressively more elaborate may indicate the need to bolster the identities of persons, households and communities as stress or competition increased.

The village settlements of the early Neolithic were generally located close to patches of productive soil suitable for intensive cultivation. It has often been claimed that this horticulture took advantage of the inundation of lowland areas by spring floods, but it is equally likely that it was rain-fed (Sherratt 1980; Halstead 1989: 40). Despite the large number of sites in some parts of the south Balkans, agriculture seems to have had sufficiently little impact on the landscape as to barely register on pollen diagrams (Halstead 1996: 297). This suggests a system of small garden plots rather than extensive fields: one in which labour rather than land was the critical variable. The combination of wheat, barley, chickpea, grass pea and bitter vetch is one that can produce high yields, but it is also demanding of time if weeding and crop rotation are practiced (Kneutz et al. 2005: 254). In this regime, domesticated animals had a decidedly secondary status, supporting the arable element. Sheep, goats, cattle, and pigs are virtually ubiquitous on early Neolithic sites, and wild animals are almost entirely absent in Thessaly and Bulgaria, indicating that there was little emphasis on hunting (Halstead 2006: 42). Halstead describes a likely pattern in which sheep, far the most numerous domestic mammals, were grazed on stubble and fallow as well as on recently sown wheat crops, which they would prevent from growing too fast and lodging. In the process they would manure the plots, helping to maintain fertility. Yet these would not have been large flocks, and the kill-off patterns indicate that they were kept for meat rather than milking or wool (Halstead 1989: 39). There would have been no extensive areas of pasture distinct from the arable, and there was no distinct pastoralist element in the economy. This integration of small stock into the arable system indicates that this subsistence economy formed an interconnected 'package', and that livestock were of subsidiary importance in relation to cereals (Halstead 2011: 134). In this respect the Greek Neolithic contrasted starkly with that of the Atlantic zone, as we will see below. Cattle were evidently even scarcer than small ungulates, as keeping a number of sheep would have been a less risky strategy for a horticultural household than putting all of their effort into a very few cows (Bailey 2000: 133). However, it is possible that small numbers of draught cattle were used as aids to tillage, even within this small-scale intensive regime (Isaakidou 2011: 101). Some of the cereal harvest may have been used to feed animals through the winter (Dennell 1978: 108–9).

One advantage of sheep over cattle in the south Balkan context was that each animal provided a quantity of meat that could be consumed by a community of a few households in a single meal (Halstead 2004: 156). Cattle, by contrast, will feed a great many people, which, in the absence of elaborate storage technologies, might be wasteful. Halstead (1989: 40) suggests that cooperation between households was important, sharing produce at times of scarcity as well as helping with labour at critical times, and that the giving of feasts was a means of securing cooperative relations. This point serves to underline the relative independence of house communities, even within tell settlements. In the Thessalian sites, cooking and food-preparation areas were sometimes located out of doors, between the houses, emphasizing the public character of culinary activities, while the gradual emergence of elaborate styles of pottery indicates how important the serving of

food may have been (Halstead 1999: 80). In a subsistence economy based on cereals and pulses, alliances and social ties will have been of considerable importance, but it is also likely that feasting provided a context for a moderate degree of social competition at the household level, as well as a further means of overcoming disputes and securing social integration (Thorpe 1996: 32; Halstead 2004: 152; Tomkins 2010: 32). In effect, the consumption of meat at relatively special meals created a political arena, within which relationships in co-resident social groups could be negotiated. Early Neolithic society in northern Greece may have been animated by the conflicting demands on household groups to maintain their independence from one another, to compete, and yet to maintain sufficiently convivial relations with others to be able to count on assistance and acquire marriage partners (Halstead 1999: 90). These arguments imply that tell societies in south-east Europe were characterized by an interesting combination of intensive co-presence and household autonomy, which might be expected to represent a volatile mix.

We have noted already that tell settlements have a high archaeological visibility. In recent years it has become evident that they form only one element of the Neolithic settlement pattern in Thessaly and Macedonia (Wilkie and Savina 1997: 201). Other kinds of locations were occupied, and other kinds of settlements existed, some of them with dwelling structures that were not so densely packed together, or with occupation that drifted laterally over time rather than building up vertically (Pappa and Besios 1999: 179; Kotsakis 2005: 9). Yet in some cases, tells may have originated as more informal settlements, composed of 'pit-huts' rather than rectangular buildings with plastered floors. This may have been the case at Achilleion (Gimbutas, Winn, and Shimabuku 1989; Bailey 2000: 42; Perlès 2001: 184). If so, it is possible both that communities in the early Neolithic of Greece were of variable character, and that in some cases they took on the more structured and formal practices that allowed people to live together in tightly clustered groups (Cavanagh 2004: 180). At a broader level, a similar contrast can be drawn between southern Bulgaria and northern Greece, where tells were present from the start of the Neolithic, and areas to the north and west, where initial Neolithic activity appears to have been less structured (Bailey 2000: 41; Tringham 2000: 25). While the Greek and Bulgarian sites have timber-framed, wattle and daub or mud-brick structures, those in the areas surrounding the Danube are generally characterized by complexes of pits, some of which may have represented informal dwelling structures. In some cases, settlement may have been temporary or mobile, in others it simply meandered across the landscape. The contrast in settlement form is undoubtedly related to economic activities, but it is likely also to have had social implications.

STARČEVO-KÖRÖS-CRIS

From the late seventh millennium BC onwards, a series of inter-connected early Neolithic groups developed around the northern and western fringes of the core of sedentary, village-based, horticultural Neolithic settlement: Starčevo in what is today eastern Croatia and northern Serbia, Körös in the area between Hungary

and Romania, and Cris further east into Romania and Moldova (Kalicz, Virág, and Biró 1998: 154; Manson 2008: 89). What is most notable about these groups is that while the Bulgarian Karanovo and Thessalian/Macedonian Neolithic generally had the full range of domesticated plants and animals, pottery and polished stone tools, Starčevo, Körös, and Cris seem to have combined these elements more selectively (Zvelebil and Lillie 2000: 70). Notably, there seems to have been a narrowing of the range of crops that were grown, with fewer pulses and cereals being introduced into the northern Balkans (Bogaard, Bending, and Jones 2007: 435). This might be attributed to a more severe climatic regime, or to the demands of a slightly more informal and less settled way of life, which was less emphatically focused on horticultural production. Starčevo sites were often located close to water, on river terraces or slopes above streams and marshes (Minichreiter 2001: 201). They generally lacked the lengthy sequences of rebuilding and replacement of structures found to the south, although Divostin was distinguished by a series of phases of construction, in which a scatter of pit-huts gave way to a rather more ordered arrangement of simple rectangular houses and pits (McPherron and Srejovic 1988; Bailey 2000: 55). This reflects a broader pattern in which the consolidation of occupation at Starčevo, Körös, and Cris sites followed more transient activity, which might be understood as either 'scouting' or seasonal visiting (Whittle 2007b: 749). The casual and fluid character of activity at Starčevo sites is underlined by a lithic assemblage in which local materials were worked simply for immediate use (Bailey 2000: 129). Starčevo communities kept domesticated animals, predominantly cattle, but herding took place alongside the hunting of wild boar, deer, cattle and horse, as well as fishing and wildfowling. The emphasis on wild species was more marked in areas further to the north (Manson 1995: 70; Whittle 1996: 67). In the lowlands of the Tisza, the Maros and the Körös itself, Körös groups differed from Starčevo in herding mostly sheep and goats, as well as cultivating cereals in small plots on drier patches within the marshland (Bartosiewicz 2005: 54; Whittle 2005: 65). Körös sites are widely dispersed across the lowlands, with predominantly waterside locations that extend along levees, ridges and terrace edges in a way that strongly suggests settlement 'creep' over time (Sherratt 1983: 302). These people also fished, hunted and took wildfowl and freshwater molluscs, but while Starčevo communities give the impression of being highly mobile stock-herding societies, the Körös economy seems more like an attempt to push the south-west Asian agricultural package to its limits, placing ovicaprids and cereals in a damp and marshy environment to which they were far from suited (Thissen 2005: 72). At Ecsefalva 23, small-scale intensive horticulture was conducted on a low ridge that would have escaped seasonal flooding, and sheep were penned nearby for at least part of the year (Whittle 2007b: 728).

Rather than a successful adaptation to a new ecological challenge, the Körös system might be interpreted as a means of participating in the networks of hospitality and competition for which sheep meat and cereal products were essential, while combining these exotic species with a broad spectrum of other foods in order to insure against their possible failure. As less spatially fixed societies, some of whose members may have broken away to conduct different economic tasks at different times of year, their relationships with place would have been different from those of the tell-dwellers to the south. Chapman (2000: 136) points to the accumulation and dispersal of both human remains and distinctive

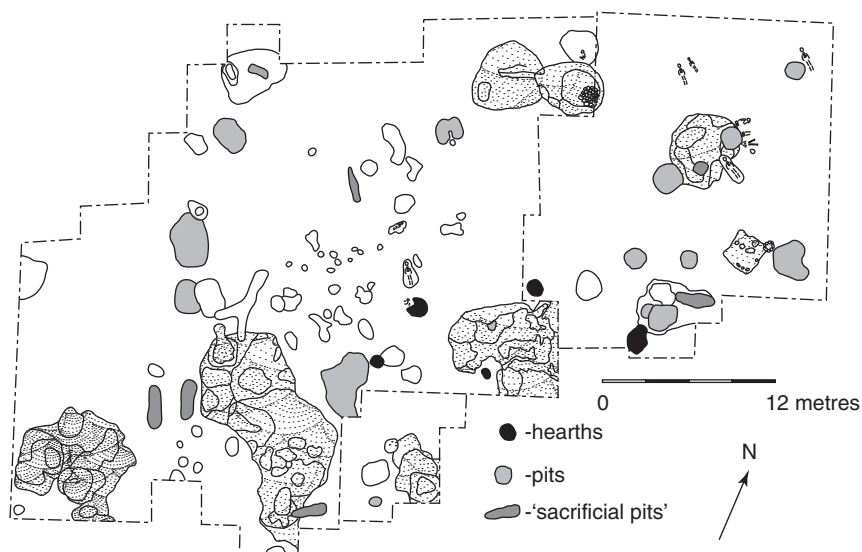


Fig. 2.4. Plan of Körös Settlement of Endröd-Öregeszolok 119 (after Makkay 1992, with permission of Institute of Archaeology, Hungarian Academy of Sciences)

classes of artefacts on Starčevo, Körös and Cris sites. Settlements such as Endröd 119 (Makkay 1992) have burials in pits or graves, but skeletal parts also seem to have been circulated from place to place, and cached, just as were flint blades or *Spondylus* shell bracelet fragments (Siklósi 2004: 13) (Fig. 2.4). The circulation of lithic raw materials appears to have been of considerable importance to Körös groups on the Great Hungarian Plain: obsidian from Slovakia, brown flint from the Banat region, and radiolarite from Szentgál north of Lake Balaton were all in use (Jones 2005: 204). Rather than continuity in the occupation of a single location through time, Körös people found their place in the world through a network of contacts between locations and people. Some people, animals, and things were fixed in space, and others moved between them. Some at least of these movements and contacts must have involved hunting and gathering communities, who had access to lithic resources in areas with no Neolithic settlement (Whittle 2007b: 746).

This raises the question of whether Starčevo, Körös, and Cris can best be understood as pioneers expanding out of the agricultural heartland of the central Balkans into more testing environments, or as local communities who selectively acquired plants, animals, and ceramics from their agricultural neighbours. There is little positive evidence for a Mesolithic presence in the areas in which these groups first emerged, although the riverine and marshy zones on the northern edge of their distribution would on the face of it have been more attractive to hunter-fisher-gatherers than much of the southern Balkans. Körös sites in particular are smaller and more dispersed in the north than the south, perhaps indicating that different processes were at work there, although it has been argued that relatively mobile Körös sheep-herders were able to swiftly move into and absorb new territories. Yet it is in the north that evidence of a low-density

Mesolithic presence is beginning to emerge, in Transdanubia and the Jászság, although hunter-gatherer activity in the Hungarian Plain east of the Danube may have been very sporadic (Bánffy 2006: 125–7; Whittle 2007b: 750). On the other hand, Zvelebil and Lillie (2000: 72) point out that Cris people were virtually hunter-gatherers who had simply adopted pottery alongside a ‘Mesolithic’ chipped stone assemblage, and made very sparing use of domesticates (see Whittle 1999: 137). Overall, it seems probable that the Starčevo-Körös-Cris complex was not exclusively a product of population movement from the south, but involved some contribution from the dispersed hunter-gatherers of the area, particularly in the north, where more use was made of wild resources.

It is the colossal quantities of pottery and burnt daub found in the large pits of Starčevo and Körös sites, often deliberately deposited, that mark them out as characteristic of a world that had been materially transformed (Sherratt 1983; Whittle 2003: 7). The social lives of these people were qualitatively different from their Mesolithic precursors in being structured by arrangements of material things. Although the dwelling structures on these sites were much less substantial than those on the tells, conspicuous acts of pit deposition arguably served to anchor their existence at fixed places in the landscape. They potentially marked and commemorated episodes of occupation, which may have been terminated on the death of a significant person (Chapman 1994). Material things here helped to maintain a durable relationship with the landscape and with the past, linking specific groups to particular locations. At Ecsegfalva 23, the settlement probably consisted of two–four small houses, which were rebuilt on several occasions within a period of about 70–80 years. Each phase of occupation may have been terminated by the burning of a house, to judge from the quantities of burnt daub recovered from the pits. Endröd 119 may have been similarly short-lived, and Whittle suggests that the house, its midden, and the large pit from which daub was originally extracted and into which cultural material was later deposited formed a repeating unit of Körös social life (2007b: 731). The pottery in these pits was less likely to be painted than that in Greece and Bulgaria, and was dominated by coarse wares, such as the distinctive Starčevo barbotine pots (Manson 1995: 66). With time, though, fine and painted wares became more common.

It is arguable that in the north Balkans, the kind of Neolithic that had arrived in northern Greece and Bulgaria as a more or less integrated ‘package’ was gradually pieced together over a much longer period, culminating in the extension of tell settlements northward with the Vinča complex of the mid-late sixth millennium BC (Bailey 2000: 161). It may be that this indicates a pattern in which indigenous societies were gradually drawn into a fully sedentary way of life, and the range of social practices that went with it. But we might equally choose to see Starčevo, Körös, and Cris as the outcome of a series of interactions between Mesolithic and Neolithic societies, in which small groups ‘budding off’ from agricultural settlements brought livestock and know-how to people who were familiar with north Balkan landscapes, creating hybrid communities, as well as social networks composed of both ‘Mesolithic’ and ‘Neolithic’ groups. Indeed, it is conceivable that the conditions of village life in the southern Balkans provided the dynamic that resulted in this kind of fissioning. Permanent, high-density settlements are likely to have been associated not only with disputes and rigid social norms, but also possibly with poor health. Food waste and human excrement may have been

used to manure the fields rather than dumped within the settlements themselves, but a monotonous diet based on cereals and pulses and ideal conditions for the contagion of disease may sometimes have rendered tell mounds less attractive than a more fluid, low-density existence.

THE DANUBE GORGES

On the border between modern Serbia and Romania, at the Iron Gates where the River Danube cuts between the Transylvanian Alps and the north Balkan mountains, are a series of gorges and valleys where excavations since the 1960s have revealed a remarkable series of prehistoric sites (Srejović 1972: 11; Radovanović 1996: 3) (Fig. 2.5). These have provided the raw material for a series of social interpretations (e.g. Hodder 1990, 21–31; Handsman 1991; Chapman 1993; Whittle 1999). One might go so far as to argue that the Iron Gates sites have exercised an undue influence over our understanding of later prehistory in south-east Europe, but they none the less present unparalleled evidence for the character of social interactions at the beginning of the Neolithic. The gorges were frequented by mobile hunting groups from the end of the last glaciation, but from the later ninth millennium BC onwards particular locations began to be the focus of recurrent occupations (Radovanović and Voytek 1997: 19). In this respect the area stands out from much of the rest of the Balkans, for the intensity of Mesolithic activity seems to have been much greater here than elsewhere. For this reason, it provides an instructive contrast with the Körös area further north.

At Lepenski Vir, which later developed into the most elaborate of the Iron Gates sites, there were hearths, burials and occupation debris from 8200 BC onwards (Borić 2002: 1030). Sources of food were plentiful in the immediate area, and people hunted red deer, wild boar, aurochs and wildfowl, and collected molluscs and plants, using grinding equipment to process seeds and nuts (Radovanović and Voytek 1997: 21). Fish were also important, possibly more so following the Black Sea transgression of c.6700 BC, which increased water temperature (Radovanović 1996: 55; Atanassova 2005). The remains of catfish, carp, salmon, and migratory sturgeon have all been identified (Borić et al. 2004: 232; Bartosiewicz, Bonsall, and Sisu 2008: 51). The presence of auditory exostoses in the skulls of several burials from Vlasac indicates that some of the people spent a good deal of time immersed in cold water, possibly catching fish in nets (Frayer 1988: 348), although stunning with stone clubs may have been more effective with larger fish (Borić 2005a: 58). Migratory fish can be a predictable and highly productive source of food, and in contexts where they have been combined with processing and storage they have facilitated the concentration of population and the emergence of competitive feasting (Rosman and Rubel 1971: 130; Schalk 1977: 231). Although the Iron Gates Mesolithic communities may have been fairly mobile, ranging up the valley sides and beyond seasonally or logistically (Whittle 1996: 27), it seems that particular social groups established locations for gathering, feasting and the burial of the dead at intervals down the river, initially distinguished by open-air hearths and pits. If these discrete sites represented a means of laying claim to distinct fishing grounds it would imply the formation of a series of

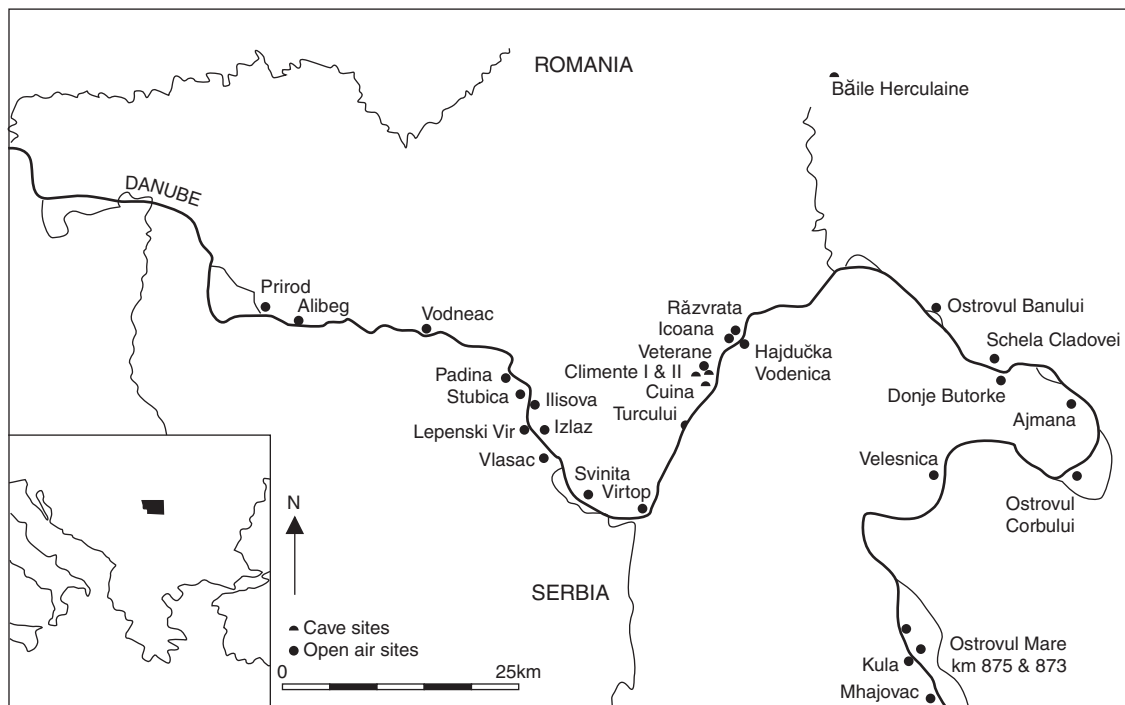


Fig. 2.5. Map of sites in the Danube gorges in the text (drawn by Joanna Wright, from Borić 1999)

separate, if interconnected kin groups. This situation might have been fairly distinctive amongst the Mesolithic societies of the Balkans.

One such site was at Vlasac, which appears to have been sporadically occupied between 9800 and 6900 BC (Bonsall et al. 2000). At Vlasac, a series of hearths were constructed, often superimposed upon one another, indicating the continuity of the use of the location over a lengthy period (Borić 2007: 111). The site was also probably one of the first locations in the Danube gorges where trapezoidal buildings were constructed, of a sort that appear to have developed locally out of more amorphous sunken dwellings and modified natural hollows (Bailey 2000: 64; Borić 2002: 1035). A small number of these structures were ranged along a terrace overlooking the river, and these together with the rectangular hearths became a focus for the deposition of 87 burials (Radovanović 1996: 120–1). Some of the burials lay beneath later hearths (Borić 2007: 108). Of these inhumations a majority were adults, but there were also 26 neonates (Borić and Stefanović 2004: 528). This suggests that Vlasac was less a continuously occupied settlement than a place to return to periodically, associated with the genealogical continuity of a particular kin group, its episodes of communal consumption and conviviality, and its prerogative to fish a particular stretch of the river (Chapman 2000: 192). The burial of significant people in these locations was presumably a means of linking place to the collective history and genealogy of these emerging social groups (Borić 2007: 109). Vlasac can be fruitfully compared with Hajdučka Vodenica, where there were two distinct episodes of funerary use, dated to 7500–7000 BC and 6500–6100 BC respectively (Borić and Miracle 2004: 368). In the earlier phase the burials clustered around a series of monumental stone hearths, only one of which was clearly associated with a habitation structure (Radovanović 1996: 122, 220–2). Later graves were contained within a ‘tomb’ or embayment cut into the natural limestone further to the south. Whittle (1996: 28) argued that the Lepenski Vir structures may have been shrines or altars rather than dwellings, and this provides a welcome alternative to seeing all of the diverse activity on the Danube gorge sites as subsidiary to settled domestic life. However, it may be more helpful to acknowledge that these locations were intermittently occupied for a range of purposes which included communal festivities, religious observances, the burial of the dead, manufacture and maintenance of equipment, and processing of foodstuffs, and that different numbers of people might have been present at different times of year. In other words, it is probable that social, economic and spiritual aspects of life were neither differentiated nor kept spatially separate.

Architecturally, it is possible to identify a continuous process of development from the hearths and pit-dwellings of Icoana, Alibeg, and the earliest activity at Lepenski Vir, to the semi-subterranean trapezoidal structures at Vlasac, and finally the above-ground buildings with rectangular hearths set in plastered floors at Padina and the later phases of Lepenski Vir (Radovanović 1996: 124–5) (Fig. 2.6). Some of the stone hearths appear to have been in use for very long periods of time, and the continuous use of specific locations which gradually developed into dwelling structures suggests the long-term maintenance of identity by bounded social groups (Borić 2007: 108). In view of this evidence for continuity, it is easy to sympathize with Dragoslav Srejović’s argument that the ‘Lepenski Vir culture’ had represented a spontaneous and independent development toward a Neolithic way of life, which eventually resulted in the domestication of plants

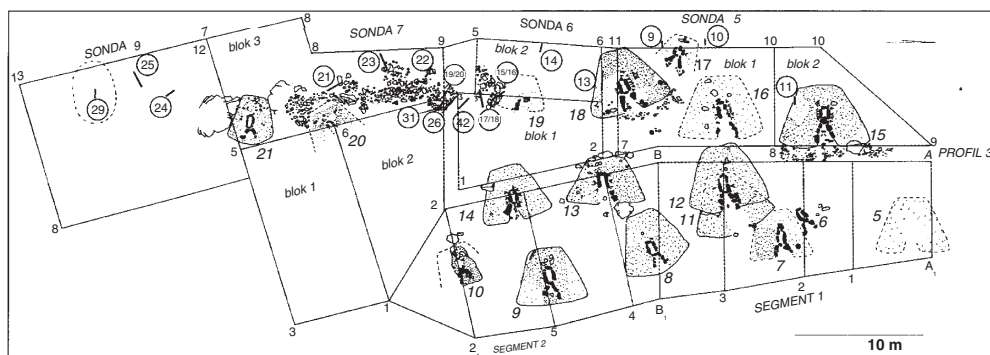


Fig. 2.6. Padina sector III (after Roksandic 2000, with the kind permission of Mihael Budja/*Documenta Praehistorica*)

and animals quite separately from that in south-west Asia (Srejović 1972: 150–1). For Srejović, it was the settled existence manifested at Lepenski Vir that provided the precondition for the emergence of agriculture. For this reason, he dismissed the occurrence of sherds of monochrome pottery within the stratigraphy at Lepenski Vir as intrusive, arguing that they had penetrated from the Starčevo pit-dwellings higher in the sequence (his Lepenski Vir III). Being entirely Mesolithic, the Lepenski Vir buildings should pre-date any Starčevo presence in the region. It now appears, however, that the most elaborate stages of the Iron Gates complex probably developed *after* the first contact with Starčevo groups, which may have occurred around 6300–6200 BC (Radovanović 2006: 108). Bonsall et al. (2008: 193) suggest that in actuality the earliest pottery at Lepenski Vir dates to 6000 BC or later, and that there was very little Neolithic presence in the immediate region before this date. However, there is evidence that the Danube gorge sites were already enmeshed in a network of long-distance contacts during the Mesolithic. Dentalium and Cyclope shells from the Mediterranean and Carpathian obsidian are found in early contexts, and Borić suggests that the trapezoidal plaster house-floors may have been inspired by east Mediterranean prototypes, before the advent of farming in the region (2007: 122). In either case, it is probably best to see the mature phase of the Lepenski Vir complex as an indigenous phenomenon that developed in relation to a series of external contacts. If Borić is correct, the formation of bounded kin-groups through the Mesolithic may have reached a further level of elaboration through the deployment of exotic cultural forms, so that these groups now emerged as ‘households’.

Over the period between 6300 and 6100 BC, the sites at Icoana, Ostrovul Banului, Schela Cladovei, and Ostrovul Corbului were all apparently abandoned, and activity ceased at Hajdučka Vodenica a little later (Borić and Miracle 2004: 367). One way of interpreting this situation has been to suggest that it reflects the encirclement of the Mesolithic communities by incoming Neolithic groups, and that the contemporary emergence of a smaller number of more complex sites at Lepenski Vir and Padina amounted to an elaboration of traditional forms as a kind of cultural resistance against these incursions (Tringham 2000: 44; Radovanović 2006: 113). However, we could equally argue that the concentration

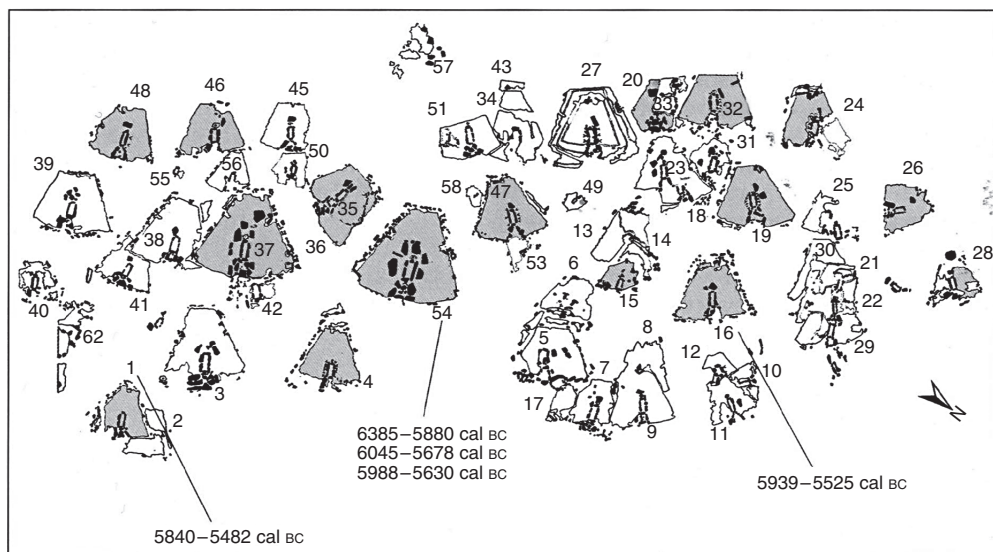


Fig. 2.7. Lepenski Vir phases 1 and 2 (after Budja 1999, with the kind permission of Mihael Budja/*Documenta Praehistorica*)

of activity at Lepenski Vir and Padina in this late phase reflected the success of two particular kin groups in the local system of competition that we have already hypothesized. In other words, these groups may have been able to monopolize funerary practice, ritual performances and feasting, concentrating them in two specific locations, and thereby achieving a position of local hegemony. The architectural and artefactual complexity at Lepenski Vir might then be the outcome of internal processes of change as much as a reaction to external factors. The red limestone plaster floors at Lepenski Vir and the burnt earth equivalents at Padina may be an indication that exotic elements were also drawn on in order to achieve this end (Borić 2007: 113) (Fig. 2.7).

Lepenski Vir and Padina are certainly unique in the region, and the richness of structures and artefacts at Lepenski Vir over the period 6300–5500 BC has led to its identification as a special, ceremonial site (Tringham 2000: 37). The ostensible ritual character of Lepenski Vir finds it a place in arguments which propose that the other sites in the region were abandoned not for social but environmental reasons. Bonsall et al. (2003: 5) suggest that over the period between 6300 and 5950 BC a global episode of climatic cooling caused increased flooding in the valley bottoms, leading sites such as Schela Cladovei and Vlasac to be deserted, as people moved to higher ground. Lepenski Vir, however, was a sacred place, the ‘spiritual home’ of the Iron Gates folk, and thus could not be relinquished. Instead, new structures were built with durable hearths that would not be washed away by the floods, and the monumental sculptures with fish-like faces that began to appear at this time were deployed to propitiate watery deities. However, as Borić and Miracle (2004: 362) have pointed out, there is little trace of sediments indicative of flooding on any of the Danube Gates sites, and no hint that artefacts or charcoal from burnt structures had been washed away. Moreover, detailed mapping of

changes in local water levels over time demonstrates that all of the sites would have been out of reach of even the most catastrophic surges.

If the changes that took place in the Danube Gorges in the seventh to sixth millennia BC are to be attributed to social rather than climatic circumstances, we need to consider further the implications of contact with Starčevo-Körös groups. One interesting piece of evidence concerns the occurrence of trauma amongst the many human skeletons from the Iron Gates sites. It appears that the overall incidence of violent injuries was rather low, suggesting that conflict was sporadic rather than endemic. Most of the violence in the Gorges involved non-lethal fighting between men (Roksandic 2006: 177). The exception to this was at Schela Cladovei III, where there were rather more numerous parry fractures and embedded projectile points. Roksandic et al. (2006: 346) argue that these burials are mutually associated, and relate to a single violent event. Yet this probably took place before 6500 BC, and is not connected with the appearance of Neolithic incomers. In other words, whatever bloodshed took place in the region was likely to have been within or amongst indigenous hunter-gatherer groups, and there is no indication that contact with Neolithic people from the south brought any increase in conflict.

It is in the light of the relatively peaceful relations between the Iron Gates communities and the regional Neolithic network that the appearance of pottery and other new kinds of artefacts should be considered. At Lepenski Vir, monochrome ceramics comparable with the earliest stages of the Starčevo-Körös-Cris complex were recovered from buildings 28, 35, 36, and 64 (Garasanin and Radovanović 2001: 118). However, similar material had also been found in the pits and subterranean dwellings of Lepenski Vir III, which were clearly much later in stratigraphic terms. Yet rather than the former being intrusive, it has been argued that material in the later contexts was redeposited, having been derived from the buildings of phases I and II. The implication of this is would be that the inhabitants of Lepenski Vir had been in contact with Starčevo-Körös communities from quite early in the principal occupation of the site. However, there is little indication that domesticated animals were present at the site at this early date (Bonsall et al. 2008: 193). There were also monochrome sherds at Hajdučka Vodenica, and associated with the trapezoidal buildings at Padina (Borić 2002: 1026). Moreover, at both Padina and Lepenski Vir there were both polished stone axes and yellow-spotted flint of probable northeast Bulgarian origin, in contexts that imply their contemporaneity with the construction and use of the buildings (Borić 1999: 54). Borić (1999) argues that the sheer quantity of this material indicates that the pottery at least must have been manufactured locally. But in any case, it is clear that the people who occupied Lepenski Vir and Padina had managed to engage themselves in a series of relationships of contact and exchange with agricultural societies, and that the use of pottery and polished stone tools were not serving to differentiate between 'Mesolithic' and 'Neolithic' groups.

How far the eventual introduction of domesticated plants and animals into the northern Balkans changed the diet of the Iron Gates communities is a debated question. On the basis of stable isotope analysis of human remains, Bonsall et al. (2000: 124–6) proposed that a gradual change had taken place over the period between 6000 and 5700 BC, from a diet based on aquatic sources of protein to one that was largely terrestrial. This they identified with a shift from the use of river

fish as a staple toward an emphasis on food-production, although this had involved an intermediate stage in which agricultural products were available (initially through exchange) but not yet dominant. The situation may have been further complicated by the burial at Lepenski Vir of people who had lived their lives in outlying areas, but who were returned for funerary treatment at what had become a ritual centre for the entire region (Bonsall et al. 2008: 194). However, Borić (2002: 1030) points out the need to compare these results with the faunal material from the sites. For sturgeon bones continue to be found in 'Neolithic' levels at Lepenski Vir, while remains of wild mammals are common in Mesolithic contexts at several sites, and domesticated species are virtually absent. Furthermore, the potential of the Danube Gorges for either horticulture or herding might have been limited. It might then be appropriate to argue that subsistence was mixed throughout the sequence, but that there was a broadening of the range of food sources employed in the later period (Borić et al. 2004: 238; Radovanović 2006: 116). One factor that complicates the interpretation of the faunal assemblage from Lepenski Vir, however, is that a large proportion of the animal bones appear to represent deliberately placed deposits (Dimitrijević 2000: 115). In particular the deposition of red deer skulls complete with antlers seems to have represented a formal element in the abandonment or closure of dwelling structures (Dimitrijević 2008: 129). Other items placed in these 'decommissioning' contexts include stone clubs used as fish stunners and dog mandibles (Borić 2007: 115).

In some cases, the human burials at Lepenski Vir may also have been connected with the abandonment of buildings. What may have been a household member was often interred in a pit beside the hearth as one of the final acts before activity in the structure ceased (Borić 2007: 115). It may be inaccurate to describe the many mortuary deposits amongst the dwelling structures on the Iron Gates sites as 'cemeteries'. Not only is it unlikely that they represent all of the deceased members of the communities concerned, but their burial appears to have had a dynamic role in reinforcing or transforming the significance of particular locations. For instance, while at Vlasac newly born infants were found principally alongside women who had presumably died in childbirth, at Lepenski Vir 41 neonates were found, generally buried within the houses, in the space behind the hearth. These burials were generally cut through the house floors, indicating that they post-dated construction (Stefanović and Borić 2008: 163). This might imply that childbirth took place within the dwelling structures (Stefanović 2006: 578), but Borić and Stefanović (2004: 543) go on to suggest that the newly-born, who had not yet achieved a fully human identity, were being afforded the 'protection' of the house. The implicit connections between birth, death and the dwelling space may indicate the emergence of the notion of the household, and the imposition onto a built structure of the theme of genealogical continuity. Interestingly, Borić (2007: 114) points to the similarity between the bodily posture of adult inhumations such as Burial 69, with their splayed legs, and the trapezoidal form of the house floors. This suggests the kind of analogy that is often asserted between the house and the human body (Carsten and Hugh-Jones 1995: 2).

Radovanović (2000: 339) draws attention to the way that the distribution of adult burials within Lepenski Vir emphasizes the changing spatial structure of the site. Many people were buried between the buildings and at the rear of the

occupied area, and individual bones may have been periodically removed from these graves, possibly to deposit in buildings on their abandonment. But other bodies were buried beneath the floors of the buildings, and these seem to draw attention to the separation between the upstream and downstream part of the site. In some cases, this duality was marked out by the performance of different mortuary rites in the two areas: contracted burials downstream and supine ones upstream in Lepenski Vir II, for instance (Radovanović 2000: 343–5). It is conceivable that the community that used Lepenski Vir was composed of two distinct descent groups, and that treating the dead in distinctive ways in separate parts of the site mapped this division onto space, while making the genealogical relationship with the past generations physically manifest in the structures that people sporadically occupied. This point is underlined by the way that in some cases the positions of the heads of mostly adult skeletons buried beneath the houses were marked by the presence of a carved boulder set in the floor (Radovanović 2000: 342). Interestingly, Roksandic (2000: 84) suggests that the diversity of metrical skeletal characters in Iron Gates burials is greater for males than females, hinting at local exogamy and matrilocality.

The mixture of human and fish-like characteristics on the decorated boulders from Lepenski Vir has often been commented upon (Bonsall et al. 2003: 7), and Borić (2005a: 35) draws attention to the need to emphasize their efficacy as a means of connection with the world of spirits and ancestors, rather than identifying them as representations in a contemporary western sense. Moreover, these objects may have constituted 'heirlooms', maintained within a particular group over many generations (Borić 2007: 115). If so, the implication is that a body of 'wealth' was beginning to be maintained by a defined community, and used as a means of rendering their identity more durable over time. Borić points out that many of the burials at Lepenski Vir were laid out parallel with the river, with their heads downstream, like migrating fish. This may indicate that the fabric of Lepenski Vir served at once to emphasize the connections between living and dead generations and to suggest some level of affinity between humans and the fish that they killed and ate. This intimate connection, in which the boundaries between humans and fish become blurred, is perhaps comparable with the relationship between people and cattle that was symbolically elaborated in various parts of Europe during the Neolithic. The boulders were probably an extension of local decorative traditions, and like the buildings and portable artefacts of the Danube Gorges Mesolithic suggest a development of traditional cultural forms. This may or may not have been a response to Neolithic cultural competition. Yet we have seen that the Iron Gates communities were able to assimilate pottery and new kinds of stone tools without difficulty. Borić (2005a, 2005b: 99) argues that a dichotomous separation of 'Mesolithic' and 'Neolithic' groups, divided by a spatial frontier and characterized by distinctive diets and artefact sets may be inaccurate in the case of the Danube Gorges, where the articulation of different economic and social practices may have resulted in identities that were complex and multiple. Certainly, the physical anthropological evidence indicates that there was no replacement of population in the area (Roksandic 2000: 83), and there is a strong case that the Gorges Mesolithic and Starčevo Neolithic proved to be complementary and mutually compatible rather than opposed (Whittle 1999: 143).

The Iron Gates Mesolithic developed in a way that demonstrates considerable similarities with the north Balkan Neolithic (Bailey 2000: 69). What is not clear is how far this was an independent and parallel development, and how far it was the result of external contacts. It may have been a combination of the two, in that interaction with Starčevo-Körös groups brought tendencies that were already present within the societies of the Danube Gorges to fruition. Like the Balkan Neolithic settlements, the Iron Gates sites demonstrated a long-term commitment to specific locations, the division of space within both settlements and structures, and the intertwining of the histories of kin groups with those of specific buildings, through the generations. The link between genealogy and place was in both cases most powerfully established by the interment of the dead beneath or beside dwelling structures, and in some cases abandoning houses on the death of a significant person. In this way the narrative of a social group was mapped out in space, and its solidarity and continuity given a memorable physical expression. The Neolithic groups that they would have come into contact with were relatively mobile, making tactical use of landscapes that they were not yet entirely familiar with (Radovanović 2006: 119). The differences between the two would not necessarily have been very great, and would probably not have been understood in terms of cultural or technological superiority. Although they may have relied on different staple foods, it is most likely that the various communities involved exchanged goods, intermarried, and gradually became mutually indistinguishable. That Lepenski Vir III was to all intents and purposes a Starčevo site, combining wild and domesticated foods, may be less a sign that the Iron Gates society had been 'assimilated' than that they had creatively taken advantage of the opportunities that had presented themselves to them.

THE ADRIATIC AND ITALY

There are some elements of difference between the early Neolithic sequence in Greece, Bulgaria and the northern Balkans and that of the areas to the west of the Dinaric Alps (Fig. 2.8). By around the middle of seventh millennium BC, ceramics and ovicaprids were established at Sidari on Corfu, where it has been argued that they were adopted by local Mesolithic people who had been frequenting the site for a considerable period of time (Sordinas 1969). Over the next millennium, the Neolithic spread slowly northward along both sides of the Adriatic Sea (Skeates 2003: 168). Yet rather than a continuous expansion, a punctuated process is suggested, with different combinations of domesticates and artefacts being dispersed through a diversity of social and population mechanisms. Many of the kinds of artefacts that the eastern Balkans shared with Anatolia (such as figurines and stamp seals) were scarce in these regions (Budja 2001: 37), and it is clear that maritime interaction was more significant here than further east. This might have included both the marine dispersal of population, and the spread of innovations through nautical contacts. The Adriatic islands were apparently being frequented by this time, often to acquire resources such as lithic materials (Bass 2009: 260). One reason that has been proposed for the delay in the spread of the Neolithic into the western Mediterranean basin is that hunter-fisher-gatherer communities were

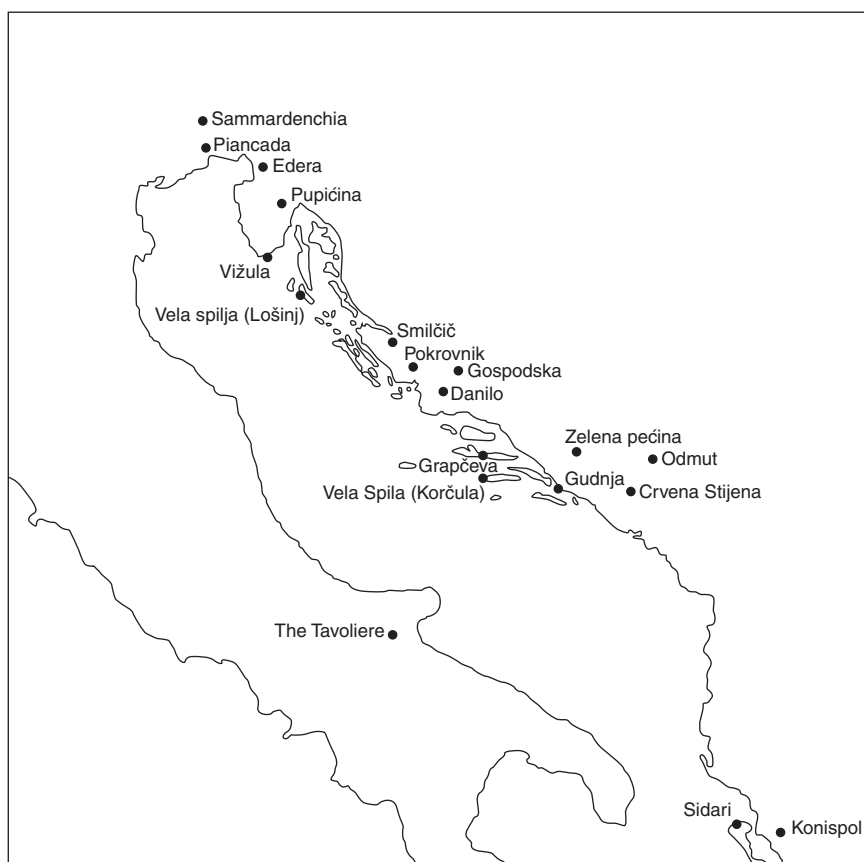


Fig. 2.8. Map of sites in the Adriatic mentioned in the text (drawn by Joanna Wright, from Forenbaier and Miracle 2005)

more densely concentrated here than in the south Balkans (Lewthwaite 1986: 53). This was only partially the case in the Adriatic zone: Mesolithic activity may have been more extensive in the south than the north of Italy, while there are numerous caves and rock-shelters with Mesolithic layers on the limestone uplands east from Trieste, running down into Slovenia and Croatia (Biagi 2003: 135). In much of northern Italy, Mesolithic and Neolithic occupations do not coincide, and Biagi argues on this basis that agriculture was introduced through population movement, with farmers moving into a sparsely inhabited landscape (2003: 150). Even in the northwest, at the Arene Candide cave, the Neolithic occupation seems to have followed an extensive period of abandonment (Rowley-Conwy 2004b: 254). However, in both the karst caves and the south of Italy there are localized indications of continuity (or at least re-occupation), which suggest different kinds of development.

Much of the evidence for the Mesolithic occupation of the Adriatic zone is indicative of a relatively mobile way of life, involving seasonal access to small mammals to hunt as well as food sources from lakes and coastlines (Malone 2003:

246). In some places, it is possible that aspects of the Neolithic repertoire were gradually added to this regime. At Coppa Nevigata near the Apulian coast, a site that had been used for seasonal shellfish collection appears to have continued in use after the introduction of Impressed Ware pottery, with little change in the lithic assemblage (Whitehouse 1971: 243). Similarly, at the Grotta dell'Uzzo on Sicily the cave stratigraphy records only a gradual shift from red deer, boar and aurochs hunting to herding and cereal cultivation. Sheep and goats increased in numbers over time, while stone tools and butchery techniques remained unchanged over a long period. Tunny fish were caught offshore, and intertidal molluscs collected. The use of marine resources increased through the Later Mesolithic into the Neolithic, although the use of the cave may have become increasingly tied to seasonal pastoral cycles (Constantini 1989; Whittle 1996: 21; Mannino et al. 2007: 122, 130). Forenbaher and Miracle (2005: 519) argue that the Neolithization of the Adriatic was a two-phase process: an initial swift maritime dispersal of Impressed Ware users, followed by a period of more concerted colonization. In the primary stage, Impressed Ware groups were highly mobile, establishing temporary footholds on the coast, and cooperating with the local hunter-gatherer populations. Later, as Impressed Ware was replaced by Danilo Ware, more permanent farming settlements were created in the coastal zones, and the northern part of the Adriatic was settled. Forenbaher and Miracle suggest that the rapid expansion of the Impressed Ware Neolithic was a form of sea-borne leapfrog colonization, conducted by people who made use of a full range of Neolithic innovations (2005: 523). Yet the evidence from Sidari, Coppa Nevigata and the Grotta dell'Uzzo demonstrates that this was not a straightforward and unbroken dispersal of Neolithic population out of the southern Balkans. While there may have been episodes in which entire communities relocated themselves into promising new landscapes, these were probably interspersed by both interaction between hunting and farming populations, and the adoption of domesticates and ceramics by indigenous groups. The Grotta dell'Uzzo is a prime example of the latter, and it is significant that it is one of a few sites in southern Italy where Impressed Wares are found in isolation, rather than being associated with painted, burnished and scratched wares (Vinson 1978: 455; Pluciennik 1997: 140). While a case has been made for Impressed Ware being earlier than all other ceramic styles, it is also arguable that it served as a material form that was readily adopted by indigenous groups, and formed a mutually acknowledged mediating symbol in relationships between sedentary and mobile communities.

At many sites, however, the first occurrence of ceramics took place alongside that of obsidian, polished stone tools, cereals and domesticates, indicating that they formed part of an integrated suite of social and economic practices. As elsewhere, this can either be read in terms of population movement or the in-situ adoption of a new way of life. It is this pattern that is observed amongst the numerous earthwork enclosures of the Tavoliere, which contrast with the nearby Coppa Nevigata in demonstrating a way of life thoroughly focused on agricultural production, almost to the exclusion of hunting, which may have retained some importance elsewhere in southern Italy (Malone 2003: 247; Robb and Van Hove 2003: 252). Massive ditched enclosed sites such as Passo di Corvo emerged from around 6000 BC, and were occupied over long periods, probably growing more elaborate through accretion over time (Whittle 1996: 291). While

they were probably occupied, the evidence for dwelling structures is not strong, and Robb (2005: 136) suggests that the earthworks may have had a role in the management of the pooled cattle herds of numbers of small groups. Cattle bones only represent a small proportion of the faunal remains on the Tavoliere sites (10–30%), and subsistence practices overall appear to have been rather similar to those of northern Greece, with cereals and pulses as staples supported by small flocks of sheep and goats. None the less, the addition of appreciable numbers of cattle and the construction of enclosures demonstrates a significant shift away from a household-based economy, and the importance of a higher level of social organization. Robb argues that cattle meat would have been consumed at infrequent but very large feasts, and notes the existence of large stone-filled hearths suitable for cooking on a grand scale. Whitehouse argued (1986: 42) that there is no precedent in the Balkans for the Tavoliere enclosures, and that they demonstrate the emergence of a regionally distinct form of the Neolithic. Although early enclosure sites are known at Asfarka in northwest Greece and Smilčić in Dalmatia (Skeates 2000: 170–1), we should not rush to identify these as the precursors or the Tavoliere structures. Skeates (2000) presents the attractive idea that the proliferation of enclosures had a significance that was not exclusively restricted to settlement and livestock management, but also signified the way that indigenous communities sought to transform their social world through spatial containment and exclusion. It is arguable that the views of Robb, Whitehouse and Skeates can be harmonized, by identifying the Tavoliere enclosures as the manifestation of a distinctive form of Neolithic, negotiating the introduction of domesticates by constructing elaborate contexts for social interaction.

In northern Italy and the eastern Adriatic, however, there are strong indications of a developing contrast between settled (and putatively colonizing) Neolithic groups on the coastal strip and more mobile communities in the uplands. Here, the initial appearance of the full suite of Neolithic innovations often appears to have been abrupt (Miracle 2006: 89). In areas such as Istria and Dalmatia, this process is attributed to maritime population dispersal (Lightfoot et al. 2011: 74). It was accompanied by changes in dietary preferences (as indicated by stable isotope analysis on human bones), with a decline in the consumption of marine foods and a marked emphasis on meat (Lightfoot et al. 2011: 80). In the coastal lowlands of central Dalmatia, Legge and Moore (2011: 188) describe an integrated economic regime based on horticulture with some sheep and goats and a few cattle, on the basis of material from recent excavations at Danilo and Pokrovnik. This is very similar to the picture observed in the southern Balkans. But in the upland caves of the southern Adriatic, Forenbaher and Miracle (2005: 517) describe the occurrence of a ‘reduced Neolithic package’, composed of sheep and goats, Impressed Ware and a prismatic blade lithic technology. Furthermore, at sites like Crvena Stijena and Odmuť in Montenegro, and Zelena Pecina in Bosnia, pottery has been found alongside wild fauna (Miracle 2006: 84). Aspects of a similar pattern are also present further north, as at the Edera Cave near Trieste, where there was continuity from Castelnovian Mesolithic to sheep and goat herding (Malone 2003: 247; Voytek 2011: 197). In coastal Slovenia and Croatia, Mlekuz (2005: 19) suggests that pottery and ovicaprids had been acquired by indigenous people before the establishment of sedentary farming settlements in the Istrian lowlands at around 5550 bc. Forenbaher and Miracle (2005: 519) point to an apparent

hiatus between Mesolithic and Neolithic layers in north Adriatic caves: there seems to be a gap of 1800 years at Pupicina, for instance. This might indicate that pottery-using groups were re-occupying caves that had already been abandoned for centuries. However, Mlekuz (2005: 16) makes a strong case for changes in mobility patterns in the Later Mesolithic, and notes that the use of caves was changing from habitations to animal shelters as small stock began to be acquired by hunter-gatherers, with a consequent erosion of earlier deposits. This erosion might, in some cases, create the erroneous impression that there had been a gap in the sequence of occupations.

The sequence that Mlekuz identifies at sites like Zelena Pecina is one of individual elements of the Neolithic repertoire, either pottery or sheep, being accessed by indigenous Mesolithic groups, at first through sporadic long-distance contacts and later through established relations with farming settlements in the coastal lowlands. Initially, both pots and small stock were exotic, prestige items, the latter being consumed at feasts and not being kept to reproduce. Gradually, though, the proportion of sheep and goat rose to more than 50% of the faunal assemblages, as hunter-gatherers transformed themselves into pastoralists. Retaining their mobility, indigenous households began to accumulate wealth in the form of domesticated mammals, rejecting the obligation to share meat which applied principally to hunted animals. In the process, they became autonomous, highly competitive groups, operating around the fringes of the mixed agricultural lowlands. This kind of social development may help to explain at least a part of the elaborate patchwork of population movement, interaction and indigenous transformation that characterized the Neolithization of the Adriatic region.

THE WESTERN MEDITERRANEAN AND IBERIA

The western Mediterranean is one of the areas of Europe where the debate over the character of the Neolithic transition has been most intense during the past quarter of a century. Here, the study of the Mesolithic is more firmly established than elsewhere in southern Europe, and there have been stronger arguments for continuity in the occupation of sites, ranging from caves to shell middens (Whittle 1996: 311). One influential perspective draws attention to a contrast with the eastern Mediterranean, where the Neolithic assemblage seems closely integrated, and where the establishment of a way of life based around agricultural villages brought with it a 'package' of innovations (Lewthwaite 1986: 56). In the areas west of Italy, some of these elements spread rapidly in isolation, but it took much longer for fully agro-pastoral economies to be consolidated (Barnett 2000: 93). According to Lewthwaite (1986: 62) the islands of Corsica and Sardinia served as a kind of 'filter', within which particular elements of the assemblage became isolated from the whole in response to local conditions, before being passed on to southern France and eastern Spain. Sheep, goats and pottery made up a stripped-down 'Cardial package', which rather than representing the complete material equipment of a specific group of people, operated in the sphere of prestige and social competition. Highly decorated pottery distinguished by *Cardium*-shell impressions, together with ovicaprids as exotic feasting-food, spread swiftly through

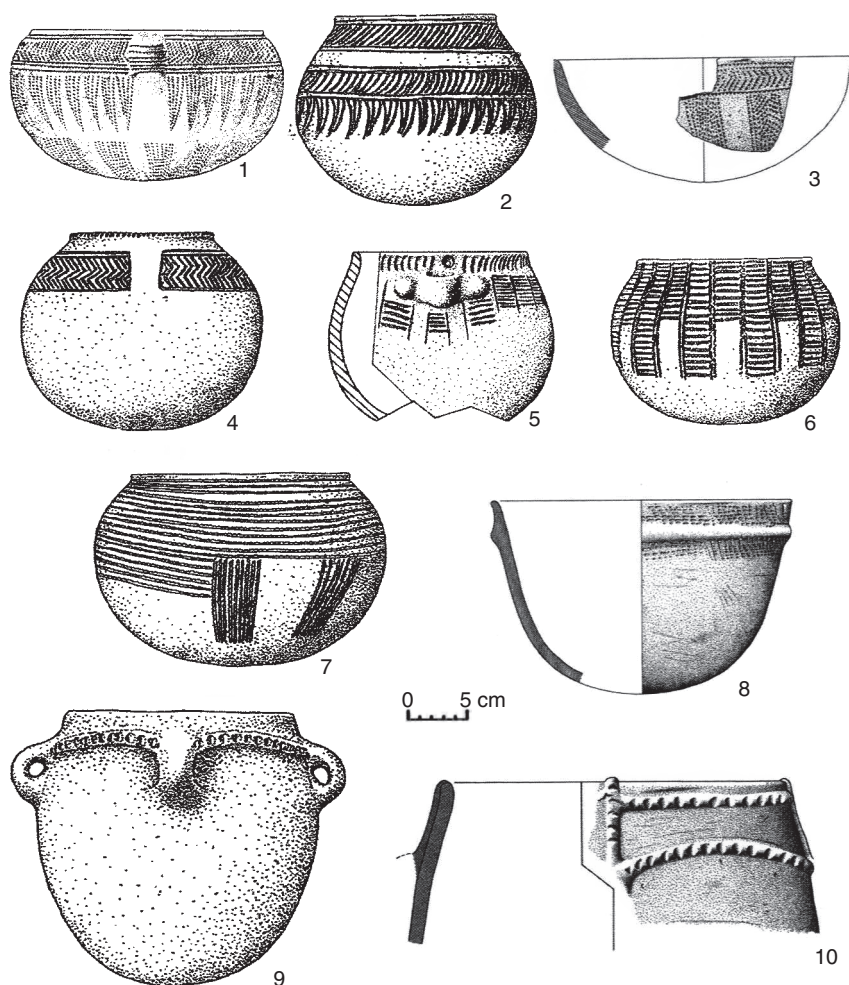


Fig. 2.9. Cardial pottery from the south of France (after Guilaine and Manen 2007, with the kind permission of Jean Guilaine, Clare Manen, and the British Academy)

maritime contacts between coastal hunter-fisher-gatherers (Fig. 2.9). In the south of France it does seem that some vessels were exchanged over considerable distances, while some of the earliest occurrences of ceramics were in shell middens and other coastal sites such as Ile Maire, Ile Riou, and Cap Ragnon (Mills 1983: 132; Barnett 1990: 864). The continuing importance of sea-born interactions into the Neolithic is amply demonstrated by the circulation of obsidian from offshore sources at Lipari, Pantellaria, Monte Arci, and Palmarole to contexts in Italy and southern France (Whittle 1996: 310; Tykot 1997; Robb and Farr 2005: 36–7). However, the precise character of the Cardial network remains shadowy. It is not clear whether there is a straightforward sequence from Cardial to ‘Epi-Cardial’ impressed wares, or whether there was variation in ceramic traditions from the outset, and there was considerable regional difference in form and decoration

(Guilaine 1979: 25; Whittle 1996: 309; Zilhão 2000: 155). Moreover, some recent arguments have replaced the idea of domesticates circulating in pre-existing Mesolithic networks in the western Mediterranean with that of the maritime dispersal of small groups of agricultural colonists (Broodbank 2006: 215). It is possible that these dispersals pre-dated the development of Cardial Ware, and are represented by a small number of sites in Languedoc and the Alpes Maritimes which appear to have affinities with the Early Neolithic of northwest Italy, including 'Impressa' pottery (Guilaine and Manen 2007: 33). These 'Italic' sites apparently date to 5600 BC or earlier. The Languedoc sites of Portiragnes and Pendimoun produced faunal assemblages dominated by sheep and goat, lacking the wild species often found at Cardial sites (Tresset and Vigne 2007: 196–7).

Other arguments proposed that sheep and goats had been spread amongst indigenous people even before the circulation of pottery began. Throughout the western Mediterranean claims were made for finds of ovicaprid bones in Mesolithic layers within caves and rockshelters, as at Balma Margineda, Abri de Dourgne, and Grotte Gazel in the Pyrenees and the Aude valley (Bahn 1983: 192; Geddes 1983: 58). A more critical assessment shows that many of these stratigraphies were disturbed by burrowing, that many of the bones were actually juvenile chamois or ibex, and that the radiocarbon dates attached to early sheep finds were often from bulked charcoal subject to the old wood effect (Rowley-Conwy 1995a: 347; Zilhão 2001: 14180). Nevertheless, while it is unlikely that there was any pre-Neolithic occurrence of domesticates at these sites, there was often continuity of occupation from the Mesolithic, and a survival of hunting into the Neolithic. This picture harmonizes with the apparent survival of aspects of Mesolithic practice into the Cardial Neolithic: the use of shell ornaments and microlithic arrowheads, and rather understated forms of mortuary activity (Guilaine and Manen 2007: 27). Furthermore, there appears to have been a contrast between upland rock-shelters with a preponderance of game (as at Abri Jean Cros and Abri de Dourgne), and lower sites with more sheep and goats (as at Grotte Gazel) (Geddes 1983: 60). Moreover, below sea level on the Languedoc coast, the site of Leucate-Corrège appears to have represented a sedentary Cardial village keeping sheep and cattle, reinforcing the view that the early 'Italic' sites had established a fully agro-pastoral presence on the coast (Barnett 2000: 98). This is reminiscent of the situation that Mlekuz describes on the Adriatic karst, and could be interpreted as either an integrated system with seasonal upland grazing and hunting, *or* as a colonizing lowland Neolithic in contact with upland indigenous groups, *or* as indigenous communities in different landscape settings adopting Neolithic innovations at different speeds and for different purposes. These different options neatly sum up the range of possible developments represented in the western Mediterranean.

In Iberia, the principal areas of early Neolithic activity have long been identified as the coastal zones and the major river valleys (Catalonia, Valencia, Andalucia, the Ebro, Atlantic Portugal, and Cantabria) (Zilhão 2000: 144), rather than in the drier interior of the Meseta or La Mancha. There are growing indications of a Neolithic presence further inland, as in the Alentejo or the Epi-Cardial 'interior Neolithic' of the northern Meseta (Jorge 2000: 45; Arias 2007: 58). However, it seems unlikely that this activity dates much before 5200 BC (Zilhão 2011: 49). Contrary to the predictions of Lewthwaite's hypothesis, the earliest Neolithic

presence in Mediterranean Spain and coastal southern Portugal, at around 5500 BC, appears to have combined Cardial pottery with new lithic technology and a full range of domesticates (Zilhão 2000: 169). Indeed, southern Iberia presents what may be the strongest case for the maritime relocation of small groups of farming people, and as such it provides a useful source of comparison with Britain. This should alert us to the possibility that the significance of Cardial Ware may not have been consistent throughout the western Mediterranean, and that it may have been used in common by groups practicing different subsistence regimes, and by both 'colonizers' and 'indigenes'.

Cereals dating to 5500–5200 BC have been identified at Los Murciélagos in Andalucía, and the Can Sadurní cave and pits at Font del Ros in Catalonia (Zapata et al. 2004: 287, 291; Peña-Chocarro and Zapata 2012: 96). At La Draga in Catalonia, a waterlogged open-air Cardial settlement revealed post-built houses, digging-sticks and sickles, and cereals dated to 5300–4720 BC (Bosch, Chinchilla, and Tarrús 2004; Gibaja and Clop 2012: 339). Coastal and estuarine areas have also provided the densest evidence for Mesolithic activity, where a gradual process of diversification since the late Upper Palaeolithic had resulted in fishing and shell-fishing being incorporated into a broad-spectrum way of life (Clark 2000: 26). In Portugal, from around 6500 BC, large shell middens were created in estuaries and along river systems in the Muge (Tagus estuary), Sado, Mira, and the Alentejo coast (Arias 1999: 409; Clark 2000: 23). These sites have a geometric microlithic technology, and although they are sited for access to aquatic resources, stable isotope analyses on bone from the many burials found within the middens indicate a roughly even balance between marine and terrestrial protein consumed (Zilhão 2001: 14185).

The earliest Neolithic sites in Portugal appear to be clustered in Estremadura and the western Algarve (Fig. 2.10). At sites such as Almonda and Figuera de Foz, the pottery is characteristic Cardial Ware, but less diagnostic ceramics are also present, and the lithic assemblages are often indistinguishable from those of the local Mesolithic (Arias 1999: 410; Jorge 2000: 46). At the Caldeirão cave near Tomar, this kind of material was associated with sheep remains and burials dated to 5400–5200 BC. Hunting of wild pig seems to have taken place, and stable isotope analysis on the human remains indicates an entirely terrestrial diet (Arias 1999: 410; Zilhão 2004: 257). Remarkably, the Mesolithic middens of the Tagus, Sado, and Mira continued in use alongside these sites, in some cases for as much as five hundred years (Arias 1999: 413; Zilhão 2011: 49). The only direct evidence for contact between Mesolithic and Neolithic groups that were sometimes as little as 30 kilometres apart is the presence of potsherds in some of the Tagus and Sado middens, which may in any case post-date the Mesolithic activity (Barnett 1995: 85; Zilhão 2000: 155). However, it seems inherently unlikely that these populations were unaware of each other, and their separate material assemblages presumably demonstrate the deliberate maintenance of distinct identities. While the Mesolithic groups were concentrated on the estuaries and coastline, the Neolithic settlements were located on the limestone massifs (Zilhão 2000: 160, 2003: 209). In addition to inhabiting mutually exclusive ecological zones and having different diets (wholly terrestrial versus 50 per cent marine), the two communities had distinct mortuary practices. Mesolithic burials were inserted into the middens singly, with shell beads, while Neolithic multiple burials with pottery vessels and stone tools were

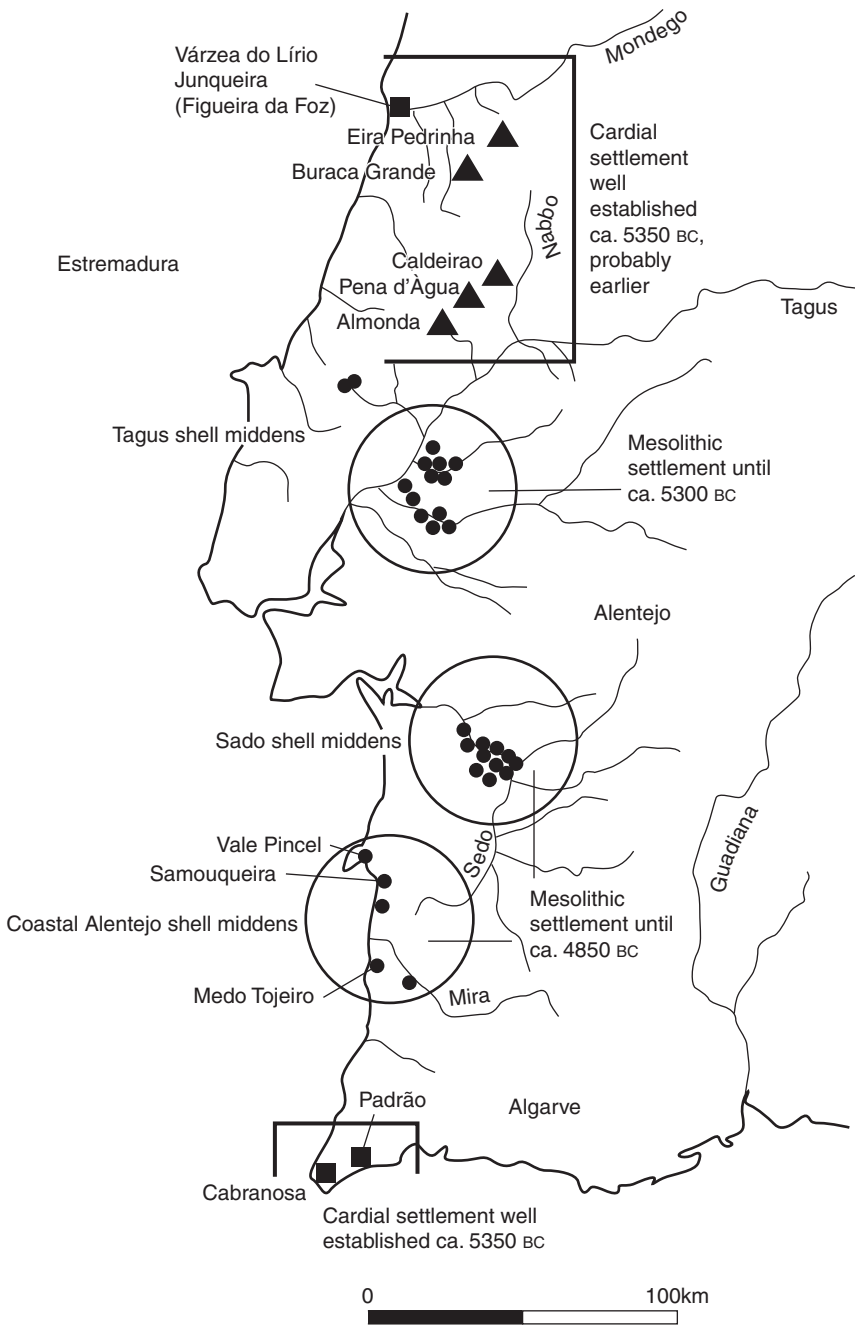


Fig. 2.10. Mesolithic and Early Neolithic activity in coastal Portugal (drawn by Joanna Wright, after Zilhão 2001)

interred in caves, although these have often been disturbed by later activity (Zilhão 2000: 162; Garrido Pena et al. 2012: 147). Setting aside the argument that there may have been continuous Mesolithic-Neolithic occupation on the Sado estuary middens, Zilhão argues that the spatial segregation of agriculturalists and hunter-gatherers that the former were colonists establishing enclaves in Estremadura and the Algarve (2000: 163).

Zilhão points out that there is little evidence in Portugal for the piecemeal adoption of pottery, sheep, or cereals, and no obvious ecological or economic imperative that would force indigenous societies into a wholesale transformation of their subsistence framework (2001: 14181). The persistence of the midden sites long after the regional appearance of domesticates would seem to support this view. Given the large and spatially concentrated Mesolithic populations in the west Mediterranean, Zilhão suggests that the expansion of agriculture was not continuous, but involved a series of planned settlement relocations into regions that were not heavily used by hunter-gatherers, such as Valencia and Estremadura (2003: 218). These need not have been driven by population pressure, so much as the desire to evade centralized authority structures and elaborate means of conflict-resolution. Once installed in an area, however, farming populations would have had a higher rate of growth than hunter-gatherers, and might eventually absorb and assimilate them. Zilhão has been accused of oversimplifying what may have been a far more complicated process (Oosterbeek 2001: 82), and of neglecting the implications of continuity from Mesolithic to Neolithic at many sites (Barnett 2000: 106). However, this apparent continuity is sometimes an artefact of taphonomic circumstances (Zilhão 2011: 55). A more significant problem lies in the physical anthropological evidence, which according to Jackes, Lubell and Meiklejohn (1997: 647) suggests biological population continuity from Mesolithic to Neolithic in Iberia as a whole. Zilhão argues for maritime 'leapfrog colonization' by small groups of agriculturalists (Barnett 2000: 105). Yet if these initially limited colonies had grown in numbers sufficiently to absorb local hunter-gatherer groups, they would presumably have left a detectable genetic signature. There does appear to have been an increase in human fertility from the start of the Neolithic (Jackes and Meiklejohn 2004: 94), but this might equally have been caused by indigenous people acquiring domesticates, becoming sedentary, and relaxing cultural controls on childbirth. Or indeed, an external population might have brought farming to Iberia, only to merge without trace into local communities who accepted new subsistence practices (Zilhão 1998: 690). Zilhão recognizes that there is little sign of an abrupt change in human skeletal morphology at the transition, but suggests that genetic markers in modern populations may indicate an intrusive element in the Portuguese case. The situation is complicated by the biological heterogeneity of Cardial Ware-associated populations in the western Mediterranean as a whole, which may be indicative of some form of diaspora, rather than a straightforward unidirectional flow of population (Pinhasi and Pluciennik 2004: 69).

Further to the north, in Cantabria, there is stronger evidence that the beginning of the Neolithic was brought about by indigenous processes and the adoption of novel resources (Fig. 2.11). Here an important element of the Asturian Late Mesolithic was represented by coastal middens containing many limpet shells, heavy implements of quartzite, and a flake-based lithic assemblage (Clark 2000: 19).

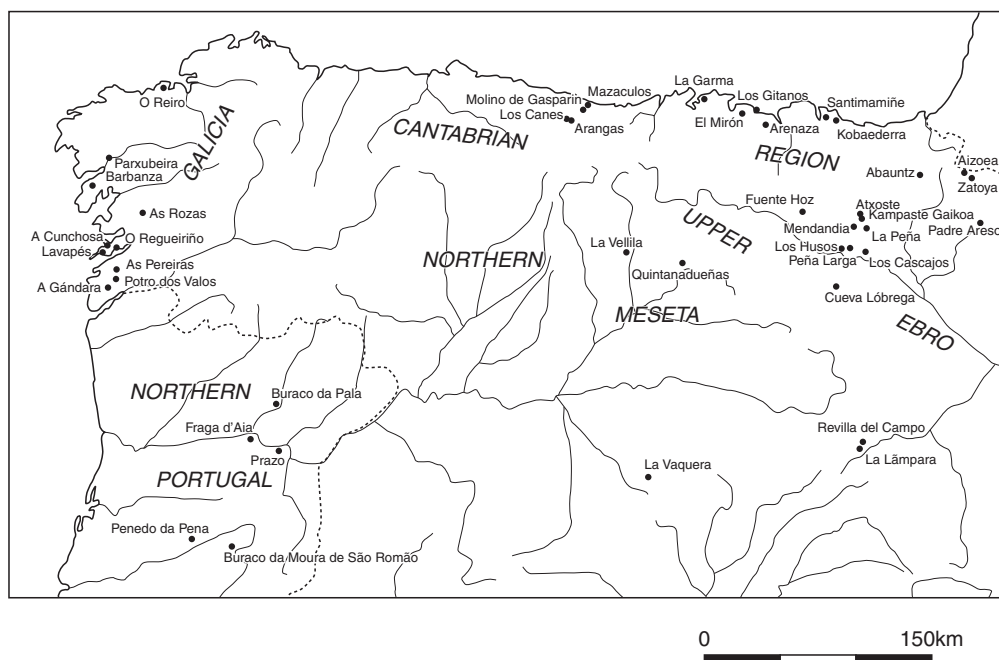


Fig. 2.11. Early Neolithic sites in north-west Iberia (drawn by Joanna Wright, from Arias 2007)

Further inland, at the burial cave of Los Canes, stable isotope studies indicate that the five inhumations deposited there had had an entirely terrestrial diet, indicating that the north Spanish Late Mesolithic not only made use of a broad range of resources, but was also internally diverse (Arias 2007: 60). Sherds of Cardial pottery have been found in some of the coastal middens, and the suggestion is that both ceramics and sheep were acquired by hunter-gatherer groups following the establishment of Neolithic settlements such as Los Cascajos in the higher Ebro valley after 5250 BC (Arias 1999: 416). However, it is important to note that the Neolithization of the Upper Ebro itself may have been a two-stage process, in which a phase of contact and indigenous pottery-use was followed by consolidation and increased use of domesticates after 4900 BC (Arias 2007: 56). For the best part of a millennium, a 'ceramic Mesolithic' in Cantabria is considered to have integrated limited herding and cereal cultivation into a broad-spectrum regime (Zilhão 2000: 147). However, at the cave site of El Mirón there are indications of an abrupt change from the hunting of red deer, roe deer, and boar to the herding of sheep and goats at around 4600 BC. Undecorated pottery and small quantities of emmer and einkorn appeared at the same time, but the nearby cave of Tarrerón maintained an entirely 'Mesolithic' assemblage at the same time (Peña-Chocarro et al. 2005: 582). The excavators conclude, however, that the process documented at El Mirón was that of a local community electing to assume a fully agro-pastoral way of life. This kind of development was consolidated regionally at the same time as the construction of megalithic tombs in the area, between 4300 and 4000 BC.



Fig. 2.12. La Sima, a relatively early megalithic tomb with a corbelled chamber, Soria (photo: author)

The creation of places in the landscape that have a special, non-utilitarian significance—megalithic structures and rock art—assumed an importance in the Neolithization process in Iberia that is not so obviously evident elsewhere in the Mediterranean. In Galicia, Andalucia, the Meseta and, as we have seen, Cantabria, the construction of chambered tombs took place no earlier than 4300 BC, and was thus a feature of a Neolithic that was achieving maturity (Scarre et al. 2003: 81; Garrido Pena et al. 2012: 153) (Fig. 2.12). Further south, in the Alentejo, arguments have been made for a much earlier origin for menhirs and standing stone complexes, perhaps contemporary with the last Mesolithic shell middens and their burials (Calado 2002: 25). The dating evidence is, however, equivocal (Carvalho 2012: 202). Rock art is still more problematic, as there is a desire on the part of some archaeologists to map its distinct styles onto socio-economic identities. Thus Macro-Schematic art is compared with the decoration on Cardial Ware, and connected with Neolithic groups arriving in Mediterranean Spain from further east (Aubán 1999: 101). By contrast, both Epi-Cardial pottery and Levantine rock art are presented as an indigenous response to colonization, with the formation of a ceramic Mesolithic (Aubán 1999: 105). While this interpretation has the virtue of presenting the Neolithization process as complex, and involving multiple social positions, it does assume a one-to-one relationship between ethnicity and material expression. Criticizing this view, Fairén-Jiménez (2007: 124) proposes that rock art may have served as a means of social mediation at a time when communities were undergoing rapid change associated with the adoption of domesticated plants and animals, when forms of reciprocity manifested at communal gatherings were being transformed.

Evidently, the change from Mesolithic to Neolithic in Iberia and the western Mediterranean was a complicated process, in which groups of people who must have been in sporadic contact with each other had quite different artefactual assemblages and subsistence practices. There may have been 'fully Neolithic' and distinctively Mesolithic communities living side by side, and possibly also indigenous people who made use of pottery or domesticates, on a permanent or temporary basis. The processes that gave rise to this mosaic are still far from clear however (Arias 1999: 411). Maritime contacts must certainly have been involved at some level, and it seems likely that in the southern part of the peninsula these involved population movement and the establishment of small coastal enclaves. It is striking both that these had no immediate impact on nearby Mesolithic groups, and that any expansion inland from these initial settlements may not have begun for a quarter of a millennium (Zilhão 2011: 50). Different regions undoubtedly diverged from any overall pattern, and the *speed* of change seems to have been a significant factor. The lag between the establishment of Neolithic activity in the Upper Ebro and in Cantabria, despite evident contacts between the two regions has been remarked upon (Arias 2007: 65). It is equally possible to argue that those areas in which agriculture developed soonest were those that were colonized by farmers, *or* those in which Mesolithic communities had the greatest incentives to change, whether ecological or social (Strauss 1991: 902).

CONCLUSION

Before we move on to review developments north of the Alps and Carpathians it may be helpful to sketch some interim findings concerning the nature of the Neolithic in southern Europe. The overwhelming impression is one of diversity: a pattern which at a high level of generalization might be presented as a uniform development, on closer inspection reveals instead a series of intricate processes of contact, mobility, exchange, and hybridization. The one generalization that can be made is that little of this seems to have been driven by population pressure, and that where groups of agriculturalists relocated themselves en masse it was often in order to escape the social and political consequences of established sedentary life. Within southern Europe, one of the most important factors affecting the speed and character of the introduction of agriculture was the relative density, mobility, social practices and subsistence activities of local Mesolithic groups. These appear to have been highly variable, and the situation has been complicated by the sometimes very low archaeological visibility of postglacial hunter-gatherers. There may have been few areas that were not at least occasionally visited by Mesolithic people, but in some places their visits may have been very infrequent. This is not to say that relocating agriculturalists everywhere faced entrenched resistance from established populations. On the contrary, it is increasingly clear that where 'leapfrog migration' took place it was often prefigured by the circulation of materials, personnel and information between hunter-gatherers and agriculturalists, through networks that may sometimes have existed over centuries. The image of pioneer farmers setting off into the unknown has almost certainly been overstressed.

In some cases established contacts enabled farming populations to enter new areas, and in others similar relationships resulted in the transformation of practices amongst indigenous communities. That the introduction of a Neolithic way of life rarely if ever took the form of a belligerent 'invasion' is supported by the lack of evidence for organized violence between hunters and farmers (in the Danube gorges, or in coastal Portugal), although as we will see below, we should not imagine that this means that the period was characterized by any general lack of conflict. Just as the Mesolithic in southern Europe was highly variable, so the Neolithic societies that developed from the seventh millennium BC onwards were also diverse. The tell communities of Bulgaria and northern Greece were particularly distinctive, characterized by the extreme spatial concentration of groups of autonomous social segments. These conditions were matched by an equally distinctive set of subsistence practices, focused rather single-mindedly on the cultivation of cereals and pulses. This was a 'Neolithic economy' that had been introduced into south-east Europe from south-west Asia, which owed its 'package-like' character to the integration of small numbers of livestock into the arable cycle. However, the attempt to raise this kind of subsistence pattern to the status of a pan-European universal (e.g. Isaakidou 2011: 92) irrespective of varying social and ecological conditions is flawed. This will be a theme pursued throughout this volume. As elements of agriculture spread into the northern Balkans and Italy, the horticultural emphasis was transformed in various ways, either by a reduction in the range of plants being grown, an increasing emphasis on wild resources, or a growing preoccupation with cattle as opposed to ovicaprids. These developments had considerable social implications. Not least of these was the increasing involvement of indigenous people in Neolithic ways of life, something that was apparently quite restricted in the earliest phases of activity in the south Balkans. Clearly, the contrast between areas such as Thessaly and the Danube gorges was very marked in this respect.

Throughout the Mediterranean zone, maritime activity was extremely important in the dispersal of domesticates and Neolithic artefact types. However, here again there was diversity. In cases like that of Crete, full-scale marine colonization seems to have taken place. Sometimes, as in Portugal, the result of population movement was enclave settlement, in which groups of agriculturalists came to be surrounded by hunter-gatherer networks. Elsewhere, as in the Adriatic and perhaps southern France and south-east Spain, the establishment of farming sites in the coastal areas appears to have encouraged changes amongst Mesolithic groups further inland. At times, formally 'Mesolithic' and 'Neolithic' societies may have shared particular artefact types, which may have been involved in the creation and maintenance of relations between them. It follows that material culture cannot necessarily be used as a basis for distinguishing between the two. In some cases, the initial occurrence of domesticates and Neolithic artefacts was piecemeal and selective, followed later by a period of consolidation, in which the full assemblage appeared. While this was perhaps a signature of indigenous adoption or 'acculturation', it might equally indicate the formation of hybrid communities.

The Neolithization of Northern Europe

CENTRAL EUROPE: THE LINEARBANDKERAMIK

Discussions of the *Linneerbandkeramik* (LBK) communities of central Europe have had a particularly important place in addressing the Mesolithic-Neolithic transition in general, because these were the first groups to take domesticated plants and animals into geographical regions that were appreciably different the zones in which they occurred naturally. Moreover, this process brought agricultural societies into areas in which there is evidence for concentrated hunter-gatherer occupation, both in central Europe and in areas further north. This being said, there is a lack of clarity over the initial emergence of the LBK, immediately prior to its apparently very swift dispersal into the European heartland (Fig. 3.1). While it is widely acknowledged that the earliest manifestation of the Linear Pottery assemblage is located in the areas surrounding the Danube Basin (Zvelebil 2004a: 48), some authorities place its origin in Slovakia (Pavúk 2004: 77) and others more specifically in Transdanubia (Bánffy 2004a, 2005, 2006). Equally, some consider the *Bandkeramik* cultural entity to have been the product of Starčevo people moving northward out of the Balkans and adding new forms of decoration to their ceramic repertoire, while others portray it as an indigenous phenomenon, in which local hunter-gatherers adopted an agricultural way of life through contact with the Starčevo complex, and without significant population displacement (Gronenborn 2007: 77; Lenneis 2008: 167). There is also considerable debate over the chronology of these developments. Gronenborn (1999: 145) suggests that Starčevo-Körös groups had been entering the Hungarian lowlands by 6000 BC, and that the LBK developed out of the confrontation between these people and the local hunter-gatherers, at a time when the core area of Starčevo settlement was undergoing profound social and economic changes as the Vinča pattern came into being. On this basis, Gronenborn (1998: 193) argues that the emergence of the LBK can be dated to around 5700 BC, with some of the more developed sites of Lower Austria such as Schwanfeld and Eitzum attributable to the period circa 5500 BC. However, Nowak (2004: 11) points out that the transition from Starčevo and Körös to Vinča in the northern Balkans was a gradual one, and that these traditions may have continued in existence as late as 5400–5300 BC. Assuming that the LBK can be in some senses ‘derived’ from Starčevo and Körös (and the culture-historic assumptions of these arguments demand some scrutiny), there is no a priori reason for it to be as early as 5700 BC. This sheds some light on the existing radiocarbon assays for earliest LBK sites. For while some of the oldest Austrian dates seem to be very early indeed, the results

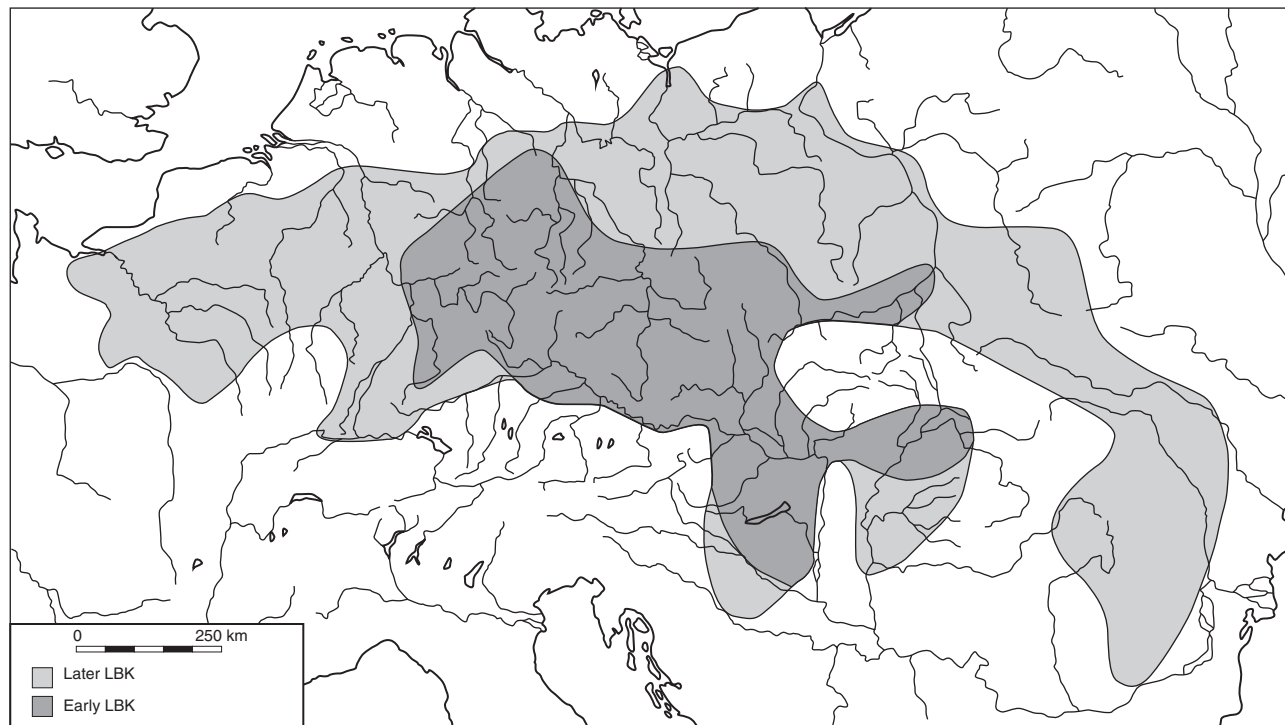


Fig. 3.1. Map of the extent of LBK settlement in Europe (drawn by Joanna Wright, after Lüning, Kloos, and Albert 1989)

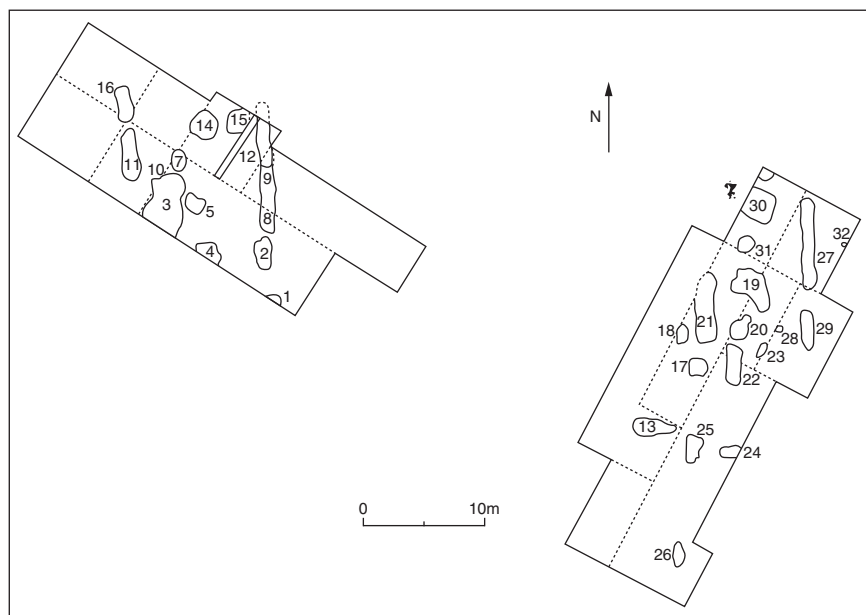


Fig. 3.2. Earliest LBK settlement at Pityerdomb (after Bánffy 2004, with the kind permission of *Documenta Praehistorica*)

for the Transdanubian site of Pityerdomb fall around 5500 BC (Fig. 3.2). As we will see, there is a strong case that this settlement stands at the very beginning of the sequence, and for this reason Bánffy (2004a: 308) expresses some scepticism concerning dates in the earlier sixth millennium BC. This view is supported by Whittle (1990c: 300), who points to the need to concentrate on determinations derived from bone and carbonized cereal grains, rather than relying on charcoal dates that may have been subject to the old wood effect. Bánffy's argument is that during the middle part of the sixth millennium BC, Transdanubia in general and the Lake Balaton area in particular represented a frontier zone between farmers and foragers. Starčevo and Körös had extended the Balkan Neolithic social and economic regime as far as was possible, and the more severe climatic cycles, unfamiliar soils and different groundwater conditions made further expansion impracticable (Bánffy 2004b: 66). As the uptake of new land came to a halt, the conditions were created for prolonged interaction between Starčevo–Körös communities and indigenous hunter-gatherers. In the course of this contact, local groups were able to achieve familiarity with the economic and technological novelties of the Neolithic, while newly settled agriculturalists experimented with wild foods. The presence of Mesolithic people in the Balaton area is demonstrated by forest clearance and an increase of hazel pollen immediately prior to the first LBK activity, as well as by finds of Mesolithic stone tools, and a circular hut with stratified Mesolithic deposits at Regöly (Bánffy 2006: 130). Bánffy and Sümegi (2011: 232) point out that the marshy landscape surrounding Lake Balaton would have been very attractive to hunters and gatherers. Moreover, even before they

arrived in the area, Starčevo groups already appear to have had indirect contacts with Mesolithic people who had access to the lithic resources of the Balaton region (Bánffy 2004a: 376). When final Starčevo and primary LBK settlements were established in the immediate area of Balaton, they were located on lakeshore terraces, best suited to the exploitation of wild resources (Bánffy and Sümegi 2011: 235). This evidence has been interpreted either in terms of the adoption of Neolithic innovations by Mesolithic communities, or of Balkan migrants adopting a more 'Mesolithic' subsistence regime (Bánffy and Sümegi 2011: 254). But equally, we might speculate that the LBK was the outcome of an exchange of personnel and ideas between Mesolithic and Neolithic groups, in which case the 'frontier' between them might be understood as a zone of intensive contact and cultural innovation.

While the ceramics and domesticated plants and animals used by the earliest LBK are of Balkan origin or inspiration, the longhouses found on these settlements were a local innovation. In Greece and the central Balkans, much of the life of the community had been conducted in the spaces surrounding small, rectangular structures with no internal post arrangement (Bánffy 2006: 125; Tomkins 2010: 36). The LBK pattern drew more activities into the larger enclosed space of the house. At Pityerdomb, two of these new buildings were combined with ceramics of essentially Starčevo character, and a flint assemblage that was broadly Mesolithic (Bánffy 2005: 84). This suggests nothing so much as an experimental hybrid of the cultural elements that were juxtaposed in the immediate region of Transdanubia. The buildings at Pityerdomb were each less than 15 metres long, and thus do not approach the size of the largest houses of the mature LBK. None the less, they already demonstrate the emergence of an elaborated domestic dwelling, which stands as the material embodiment of a relatively independent social group. The site of Brunn II in Austria had buildings that were similar to those at Pityerdomb, yet the pottery here lacked the clear affinities with Starčevo, indicating perhaps the development of a more distinct cultural identity (Lenneis 2001: 100). Together with sites such as Schwanfeld and Bruchenbrücken, Brunn II formed part of a dense cluster of earliest LBK sites in Lower Austria, which arguably formed a prototype for LBK settlement patterns in central Europe (Bogucki 2000: 207; Bánffy 2004a: 378). In Lower Austria the settlements were located primarily on loess soils, perhaps indicating a shift back to a more single-mindedly agricultural way of life (Lenneis 2008: 164). In these early settlements the houses were arranged in rows, unlike the dispersed 'house-yards' of the mature LBK (Whittle 2009: 252). Throughout the earliest LBK sites of Transdanubia, south-west Slovakia, Lower Austria, and Moravia the lithic assemblage was one dominated by blades made with soft-hammer percussion, which had clear Mesolithic affinities (Gronenborn 1990: 175; Mateiciucová 2004: 98). The pottery from these sites had developed away from Starčevo prototypes toward an assemblage characterized by conical and biconical forms, fingernail impressions, broad decorative bands, low firing temperatures and organic temper (Sommer 2001: 252; Lukes 2004: 21; Nowak 2004: 9). It is conceivable that some of the decorative elements employed were of Mesolithic rather than Starčevo inspiration (Zvelebil 2004b: 190).

Where Bánffy originally presented the earliest LBK as an indigenous phenomenon developing around the fringes of a Neolithic system that could expand no

further, the implication of Gronenborn's argument is that the new pattern emerged in opposition to a different structure that was taking shape within the established Neolithic zone, the Vinča (Gronenborn 1999: 152). Vinča involved an intensification of settlement patterns, in which tells such as Vinča itself and Gomolava developed in the north Balkans for the first time, alongside large 'flat' settlements like Selevac and Opovo (Tringham, Bruckner, and Voytek 1985: 442; Tringham 1994: 188; Whittle 1996: 83; Bailey 2000: 161). On this account, the low-density pioneer forest farming of the LBK offered a way of life that contrasted with the more centralized and regulated pattern of Vinča, characterized by more autonomous households. The earliest LBK communities might then represent a combination of indigenous people turning to farming and groups splitting off from established Neolithic communities. If so, these communities appear to have established a series of cultural traditions that retained remarkable coherence over both time and space. Although there were notable regional variations in house structure, projectile point style, the species of animals exploited and the representation of cereal crops from the very start of the LBK (Lukes 2004: 17; Allard 2007: 214), the overall pattern was one in which architecture, ceramic style and settlement structure demonstrated a level of uniformity that was maintained over centuries. This apparent conservatism has been described as a deliberate effort to achieve social and cultural cohesion, in which change was actively resisted (Keeley 1992: 82; Sommer 2001: 257). It may be, though, that the enduring coherence of the LBK can be understood less in terms of cultural stagnation than dynamic social process. It is arguable that the LBK material assemblage provided a readily recognisable framework for a continuing process of expansion and assimilation, in which social groups which were themselves of mixed origin progressively absorbed central European hunting bands. The LBK might then be seen as a relatively open social network, entry into which was clearly signalled by the adoption of a range of unambiguous material symbols: houses, pots, stone adzes, and presumably modes of dress as well. The practices and cycles of agro-pastoral farming, and the consumption of cereals and the meat of domesticated animals, would equally have served as markers of identity. However, this is not to say that the LBK as a whole, spread from the Paris Basin to the Ukraine, represented any kind of coherent large-scale social entity. It is inherently more likely that this shared material assemblage enabled cooperation and coordination between social units that were not homogeneous in themselves, and which may not have had shared origins, ethnicity or even language.

If the expansion of the LBK took place through the combination of the 'budding off' of small groups from established settlements and the recruitment of local indigenous people, one of the most important elements in creating and maintaining a distinctive LBK identity was the house, which represented a particularly homogeneous element of the cultural repertoire (Coudart 1991: 404). Houses built on a colossal scale, hugely over-engineered with internal frameworks of large posts, would have drawn attention to (and reinforced) the material reality of a particular group of people's dwelling-together, and in the process would have made kin relations (real or fictive) tangible. As a monumental physical presence, the house represented an enduring focus with which people could associate themselves, and provided an entity to which outsiders could become attached. In other words, the increasing scale and complexity of the dwelling structure

amounted to a mechanism for the assimilation of people into an expansionist (and even predatory) domestic community. This would imply that LBK societies were ones for whom the acquisition of labour was of cardinal importance, and this may have been a feature that distinguished them from the Neolithic groups of Greece and the Balkans.

In the earliest stages of the LBK, the buildings retained some elements of similarity with the houses of the Balkan Neolithic. The presence of two exterior wall-trenches, which may have received the lower edge of the pitched roof, facilitated the creation of a large open central space, similar to those in south-east European dwellings (Gronenborn 1999: 159). However, sites as early as Brunn II replaced this pattern with one characterized by internal post-rows (Lenneis 2004: 151). These would have provided massive support for a roof that could withstand heavy winter snow, but the implications for the transformation of the internal social space are equally profound. It has long been recognized that LBK houses have three distinct forms, distinguished by various combinations of three structural elements: the central space, a more secluded area surrounded by wall-trenches, and a space containing 'doubled' posts to support an upper floor or stage, which may have been a granary or a public area (Lenneis 2004: 151). In the earlier LBK houses tended to combine all three units, but over time one- and two-part buildings became more common (Modderman 1988: 96). All three parts need not have been built at once, and in some cases the different elements were built on slightly different alignments. Rück (2009: 169) takes this to mean that houses were progressively enlarged, perhaps reflecting the developmental cycle of an expanding household.

LBK houses varied in scale as well as composition, and only a minority of them reached over 30 metres in length. This diversity has sometimes been identified with display and competition based upon economic success (van der Velde 1990: 30; Pechtl 2009: 86). If the houses represented autonomous and competitive social entities, there are also indications that house-clusters or hamlets represented different levels of social integration or interaction. Thus, for instance, lithic working appears to have been gradually marginalized away from the houses, suggesting that it became a more corporate activity, while the cooking of food for communal feasts took place on hearths and ovens separate from the buildings, in a way that echoes the settlements of south-east Europe (Gronenborn 1999: 161; Marciniak 2004: 135). There is little doubt that each building would have required the labour of more than a single 'household' to construct it (Startin 1978: 157; Keeley 1992: 86). None the less, houses rarely show signs of repair and re-use (Soudský 1962: 199), and the suggestion has been made that they were occupied for only a single generation before being abandoned. Estimates for their use-lives range between 25 and 45 years (de Grooth 1987: 30). Like houses in south-east Europe, their abandonment may have been connected with the deaths of household members, but they were much less frequently burned, instead being left to rot away while a new structure was built nearby (van der Velde 1979: 130; Modderman 1988: 97). The distance between each house and its successor increased over time, with buildings virtually adjacent to each other in the earliest LBK (Lenneis 2008: 170). It is conceivable that the presence of a series of more or less decrepit houses spread across a plateau space might provide tangible evidence of a kin group's history, authenticating descent and occupation in a way

comparable with the vertical growth of a tell. It is interesting, then, that some larger settlements have evidence for continuous occupation over long periods of time, while some smaller ones may have been founded later and abandoned earlier (Bakels 1982: 37; de Grooth and van der Velde 2005: 230; Classen 2009: 98). This would seem to be a good indication that smaller settlements 'budded off' from larger ones, and that the overall set of relationships that linked the sites within a region was essentially structured by kinship and descent.

Internally, the LBK was linked not only by shared stylistic similarities in artefacts and architecture, but also by extensive patterns of exchange. This is most evident in the circulation of lithic resources, such as Hungarian novaculite and radiolarite, Dutch and Polish flint, and Slovakian obsidian, all of which travelled extensive distances (Modderman 1988: 123; Sommer 2001: 252; Gronenborn 2007: 77). Yet it is clear that throughout the period, the networks that connected LBK communities with their Mesolithic neighbours were just as extensive. Gronenborn (1998: 190) suggests that a set of contacts connecting south-east and central Europe existed as early as the seventh millennium BC, demonstrated by the presence of some thousands of mollusc shells from the lower Danube in the Ofnet cave. If so, we can imagine the LBK expanding in a 'capillary' fashion into an existing social environment that it did not entirely disrupt. At each stage in this expansion, materials were passing back and forth between LBK and Mesolithic communities: stone adzes and Hungarian radiolarite were acquired by hunter-gatherer groups in Bohemia and Moravia (Lukes 2004: 20), while flint from the Maas valley in the Netherlands has been found on early LBK settlements in Austria and southern Germany, dating to a time before the LBK presence in Holland (Gronenborn 1990: 178; Thorpe 1996: 37, 1999: 168; Sommer 2001: 253).

The permeability of LBK society is illustrated most clearly by its intimate relationship with the La Hoguette complex. The deep, point-based vessels of La Hoguette, with bone temper and bands of stroke-ornamentation, were probably made by Mesolithic people, and may originally have been inspired by the Cardial presence in the south of France in the first half of the sixth millennium BC (Gronenborn 1999: 138; Bogucki 2001: 90; Zvelebil 2004a: 47). It is possible that these people had also adopted domesticated animals, becoming mobile pastoralists as well as hunters (Amkreutz, Vanmontfort, and Verhart 2009: 13). At Stuttgart-Bad Cannstatt in Germany, La Hoguette pottery occurred with bones of sheep and game animals, antler harpoons and Mesolithic-style flint artefacts, dated to c.5200 BC, while at the Bavans rock shelter in eastern France La Hoguette Ware and a few sheep bones were stratified beneath LBK material (Gronenborn 1998: 191; Bogucki 2000: 208; de Grooth and van der Velde 2005: 235). 'Pure' La Hoguette assemblages are also known from areas of the Netherlands north of the loess (Verhart 2000: 34). More often, though, La Hoguette material is found on LBK sites, concentrated in the area of the Rhône. Interestingly, La Hoguette and the later Limburg pottery are respectively associated with concentrations of asymmetrical flint projectile points which are left- and right-lateralized, and which persisted across the Mesolithic-Neolithic chronological boundary (Löhr 1994; Street et al. 2001: 429). This suggests that there was a close, perhaps even symbiotic, relationship between the LBK and some Mesolithic groups. It also reinforces an impression that the arrival of farming communities 'slotted into' existing patterns of social relationships rather than completely disrupting them.

This argument is supported by evidence that the users of La Hoguette pottery may already have been present in the Lower Rhine area before the LBK arrival (Amkreutz, Vanmontfort, and Verhart 2009: 15).

The relative speed of the expansion of the LBK, out of the Danube basin toward Franconia, Alsace, and finally northern France and the Ukraine, has often been stressed (e.g. Modderman 1988: 68). However, the chronological uncertainties mentioned above may mean that we should imagine this process being played out over some centuries, concentrating on the years between 5400 and 5100 bc, rather than as little as a hundred years (Zvelebil 2004a: 47). Much has been made of the complementary demands that agriculturalists and hunter-gatherers would have placed upon the landscapes of central Europe, so that they might have been able to exist side-by-side in separate ecological niches (Vencl 1986: 47). It is quite clear that in areas such as southern Poland and northern France LBK settlement had an 'enclave' character, with groups of sites separated by large areas still occupied by hunter-gatherers. This pattern has been linked to a process of 'leapfrog colonization', in which agriculturalists were dispersed very thinly across the loess country, following the major watercourses (Bogucki 2000: 211; Nowak 2004: 11; Allard 2007: 219). It is broadly agreed that this expansion was not being driven by a limitless flood of population being pumped out of south-east Europe, nor by soil exhaustion (Bogucki 2000: 213; Bogaard 2004: 161). However, there had been a Mesolithic presence in the loess uplands (Bogucki and Grygiel 1993: 400), and this indicates that the spread of the LBK was not characterized by the simple dispersal of a 'pure' south-east European population into an empty landscape. While the process has sometimes been portrayed as one of conquest or population replacement (Price, Gebauer, and Keeley 1995: 103), it is probable that the initial emergence of the LBK had involved the transformation of indigenous Mesolithic groups, whether in contact with or combining with Starčevo agriculturists. So while the northward and westward spread of the LBK undoubtedly involved population dispersal of some kind, it could equally be seen as a continuation of the process of recruitment and transformation of native communities, or members of those communities (Lukes 2004: 26). What is uncertain is whether these Mesolithic recruits should best be understood as having been co-opted, or whether they were taking advantage of opportunities that were presented to them. During the expansion that followed the earliest LBK, in the so-called Flomborn phase, subtle changes took place within the cultural assemblage (de Grooth and van der Velde 2005: 238). Pottery forms became more stylized, and mineral temper replaced organic (Sommer 2001: 255). Figurines became less frequent and less straightforwardly depictive (Hofmann 2005: 60), while house-models, altars and pots representing human bodies disappeared (Bánffy 2005: 82). These changes may have represented a kind of progressive formalization of the material assemblage, or may have reflected the contrasting priorities of the central European people who were being drawn into the LBK system.

That the LBK expansion was not achieved by a pristine, bounded and closely genetically linked community is implied by a series of aspects of biological anthropology. There does appear to have been a specific mitochondrial DNA sequence that was brought into central Europe by the LBK, N1a. However, N1a is a very minor strand in the composition of the continent's DNA structure, and it seems to have had a negligible overall impact (Haak et al. 2005: 1017). This

implies that while there was some south-east/north-west population relocation during the sixth millennium BC, it was not the migration of a distinct and autonomous racial or ethnic entity. There are also strong indications that the populations of LBK settlements were biologically heterogeneous. At the cemetery sites of Flomborn, Schwetzingen, and Dillingen in southern Germany, variation in the strontium levels in human bones demonstrated that appreciable numbers of people were of non-local origin. In Flomborn and Dillingen in particular, the women were often apparent incomers, while any men that were of distant origin were generally buried without a shoe-last adze (Bentley et al. 2002: 800). Many of the 'outsiders' had unusually high strontium values, which suggests an origin in the uplands of the Black Forest, the Odenwald, Swabia, or Franconia, rather than other parts of the loess country. The implication is that these people had come from hunting and gathering communities, rather than simply having married in from other LBK settlements (Knipper 2009: 147). In other words, LBK communities were absorbing indigenous people, and not merely exchanging marriage partners between themselves.

Further evidence of biological diversity was identified at the settlement of Vaihingen, where disarticulated human remains were encountered in the pits flanking the houses, while complete flexed bodies were found in the ditch of a large enclosure associated with the settlement. The remains in the pits were markedly more robust, suggesting that two distinct populations were present, and similar patterns of diverse robusticity were reported at Rixheim and Talheim (Gronenborn 1999: 186). All of these results are consonant with the picture of LBK communities as permeable, and their spread being as much concerned with the recruitment of indigenous people (both female *and* male) as with the relocation of co-resident groups, although it does appear that more 'non-local' people were present at LBK settlements in southern Germany during their earliest phases of occupation. This pattern is especially clear at the cemetery of Stuttgart-Mühlhausen, where the earlier graves contained appreciable numbers of women who had apparently moved to the site, but later burials were generally of local origin (Classen 2009: 100). It is conceivable that the earliest LBK communities in this area were formed through an influx of farming people from other loess regions, mixing with foraging people from non-loess areas. This might have been followed by consolidation and increasing homogeneity, although it is also possible that the interactions involved were altogether more complex (Bentley 2007: 124; Bickle and Hofmann 2007: 1032).

Numerous authors have pointed to the highly specific locational preferences demonstrated by LBK sites. We have seen that the very earliest LBK settlements may have emerged in positions overlooking the Hungarian wetlands, but by the Keszthely phase of the fifty-fourth century BC a more characteristic pattern had developed (Bánffy and Sümegi 2011: 237). Throughout central Europe LBK settlements grew up on flat or gently sloping loess plateau or gravel terrace expanses, overlooking minor watercourses rather than major rivers, and generally within 500–750 metres of water (Bakels 1982: 31; Ilett et al. 1982: 49; Lüning 1982: 14; Bogucki 2000: 205; Bogaard 2004: 14; de Grooth and Van der Velde 2005: 219). In part, this probably relates to a very specific subsistence pattern, making use of quite precise conditions for garden horticulture. But the very particularity of these locations suggests that over and above the economic requirements,

inhabiting a given niche in the landscape had a role in maintaining a distinctive identity as well as a pattern of social relationships. As with artefacts and architecture, the very specific rhythms and locations of everyday practice gave the LBK both its coherence and its intelligibility. This concern with specifying the conditions of everyday life extended to the ordering of the internal space of houses and settlements: an emphasis on unambiguous division and repeated modularity within the buildings provided almost overstated cues for social interaction (Hofmann 2006: 194). We have already suggested that the characteristic pattern of house-replacement and settlement 'budding-off' indicates a society structured by kinship, and the modular structure of houses composed of recurring units and grouped together in 'wards', which in turn made up settlements, that were themselves grouped in regional clusters, enhances this impression (Modderman 1988: 87; Milisauskas and Kruk 1989: 405; Lenneis 2004: 155; de Grooth and Van der Velde 2005: 230) (Fig. 3.3). Similarly, the deposition of the remains of the dead within settlements, and occasionally in cemeteries associated with settlements, provided reminders of the relationships between generations in ways that could be readily appreciated (Hofmann 2005: 63). All in all, LBK people inhabited a material world that massively reinforced particular modes of social conduct, and this at once enabled a specific way of life to be replicated or re-established in new locations, and facilitated the assimilation of people who were being drawn in to that life, possibility even attracted to it from a distance (Bentley 2007: 119).

We have discussed Bánffy's argument that the Balkan Neolithic economy could not be transferred to central Europe in an unaltered state, and there do seem to have been important innovations in subsistence practice associated with the LBK. While some of the earliest LBK sites have produced faunal assemblages containing a preponderance of sheep, or extensive evidence for the hunting of wild species, the pattern that developed over time was one dominated by cattle (Gronenborn 1998: 194, 1999: 163; Bogucki 2001: 86; Bakels and Zeiler 2005: 312; Bedault 2009: 119). Marciniak (2004: 135) notes that on many sites there is a clear distinction in the treatment and deposition of sheep and cattle remains, with the former suggesting casual everyday consumption and the latter communal feasting in public parts of the settlement. Spatially, sheep bones may be more closely associated with the individual houses (Marciniak 2004: 138). Similarly, at the Aisne valley LBK site of Cuiry-lès-Chaudardes, Hachem (2000: 311) notes that the remains of cattle, sheep and wild pig were concentrated in different parts of the settlement. Wild boar were often associated with the smaller houses, and cattle with the larger, which as we have noted above may have been built by more successful or powerful household groups. Bogaard (2004: 46) argues that both sheep and cattle would have had much the same role in the LBK economy as livestock had had in the Balkan Neolithic: grazing in the vicinity of the settlement and producing manure to restore the fertility of horticultural plots. She supports this argument by pointing to metrical analyses of both sheep and cattle, whose small size indicates that they were not inter-bred with wild species. This is taken to imply that they were maintained in small numbers close to the houses and gardens, where aurochs bulls might not intrude (2011: 270). However, the same outcome could have been achieved by closely managing cattle, with relatively large numbers of herders and assistants. While sheep, goats and pigs may have had much the same role in the central European Neolithic as in the Balkans, closely

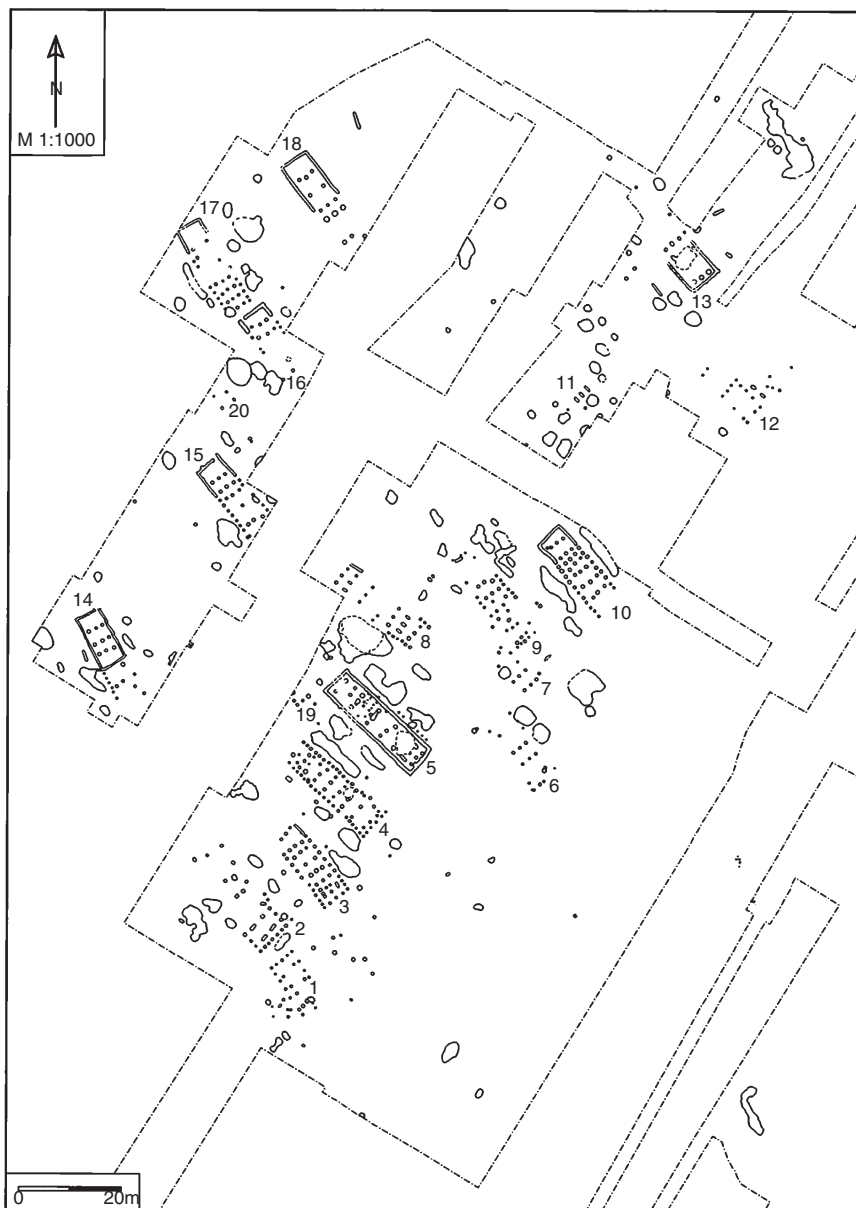


Fig. 3.3. Plan of the LBK settlement at Weisweiler 111 in the Rhineland (after Rück 2009, with the kind permission of Oliver Rück)

tied to the settlement or the garden plot, herds of cattle of appreciable size were arguably a new element.

The apparent importance of cattle meat in feasting, whether communally organized or provided by leading households, suggests that they may have had a role in the accumulation of social capital as well as the provision of foodstuffs.

Lüning (2000: 190) suggests that cattle-herding may have involved transhumance, with beasts being kept outside of the houses during winter and pastured in upland regions in summer. If so, cattle herds might have amounted to a store of mobile wealth that might either have been held collectively or monopolized by powerful kin groups. And if the size of herds was principally limited by the number of people who were available to tend them, this might provide one reason why LBK households actively sought to incorporate outsiders. Their success in economic competition depended upon the numbers of healthy young people that they could absorb. On this argument the rapid expansion of the LBK system would have little to do with population growth or the exhaustion of soil, but would be driven by the imperative to create wealth in the form of large cattle herds. This need not mean that beef was so 'special' a food as to make a negligible contribution to diet: stable isotope analysis of human remains from Herxheim in the Rhineland give the impression that animal protein was widely consumed, and that some people may have eaten very little plant food at all (Dürrwächter et al. 2006: 44).

Bakels (1982: 38) pointed out some while ago that LBK sites are generally packed closely together on rich soils that would have had to be cleared of thick forest for cultivation, so that although each would have enough land for garden plots the grazing available between sites would be inadequate to support large numbers of livestock. In the Rhineland in particular this densely packed settlement landscape on the edge of the loess plateau seems to have become more marked over time (Classen 2009: 98). Recently, Bakels has expanded on this theme:

Very little forage for the animals was to be found in the dense lime woods surrounding the settlements. Only the valleys and the woods outside the loess regions contained sufficient fodder. This means that the animals must have been pastured far away from the settlements for part of the year at least, which could explain the odd finds of LBK features outside of the region. (Bakels and Zeiler 2005: 314)

A number of sources of evidence support the view that LBK societies maintained transhumant cattle herds, which ranged between pastures and returned to the established settlements periodically (Bogucki 2000: 212). On the lowlands of the North European Plain there are numerous small LBK sites with no structural remains, suggesting temporary occupation (Milisauskas and Kruk 1989: 409). Similar sites are known on the sandy soils of the Low Countries, concentrated in a band roughly 30 km northward from the loess areas with LBK settlements (Wansleben and Verhart 1990: 398; Verhart 2000: 229; Amkreutz, Vanmontfort, and Verhart 2009: 18). In the German uplands, fieldwalking survey at Freiamt-Ottoschwanden in the Black Forest has confirmed a non-sedentary LBK presence represented by stray finds (Kienlin and Valde-Nowak 2004: 31). Such scattered finds of LBK material are found in non-loess areas throughout northern Europe, and while the more widely-distributed occurrence of stone adzes probably relates to contacts with Mesolithic populations, the more concentrated finds of pottery and flint tools may be attributable to transhumance cycles (Verhart and Wansleben 1997: 71; de Grooth and van der Velde 2005: 220). Recently, strontium isotope ratios from animal bones from Vaihingen-Enz in south-west Germany have confirmed that while pigs were kept close to the settlement, cattle and even sheep and goats were all seasonally pastured in the uplands, and some of the

cattle in particular seem to have begun their lives in other regions (Bentley and Knipper 2005; Knipper 2009: 152). It is possible that some members of LBK communities were more deeply involved in livestock management than others, and had very distinct life-histories as a result (Bentley 2007: 133). At the Stuttgart-Mühlhausen cemetery very detailed analysis of strontium levels in human teeth indicated that many males had moved repeatedly between the loess and other landscapes during their youth. The implication is that young boys had taken a role in the seasonal movement of cattle into the uplands (Knipper 2009: 151). Bickle (2009: 139) points out that hunting would have taken place on the wooded plateaux near the settlements, so that hunting and herding members of LBK communities would have had very different conceptions of their surrounding landscapes.

On the basis of the apparent discontinuities in ceramic sequences, it was once argued that LBK communities practised swidden agriculture, burning forest and cropping before moving on and allowing clearances to regenerate (Soudský 1962; Soudský and Pavlů 1972: 325). It is now more generally accepted that intensive garden horticulture took place, with much effort invested in tending crops by weeding, manuring, hoeing and watering, and grazing by sheep to restrict premature growth (Rowley-Conwy 1981; Bogaard 2004: 41). In this respect, the arable component of the subsistence economy was not dissimilar from that in south-east Europe, but as we have noted above its comparative contribution to diet may have been somewhat reduced. The weed assemblages from LBK contexts indicate that garden plots were maintained in use over long periods (Bakels 1991: 281), and may actually have had greater longevity than the houses (Bogaard 2004: 165), prompting the speculation that they may have been focal to settlement areas. Emmer and einkorn wheats were grown, often together, and barley, peas, opium poppy and other wheat varieties occurred to varying extent (Price, Gebauer and Keeley 1995: 97; Sommer 2001: 253). The relative scarcity of wild plants such as hazelnuts, apples, and berries is particularly noteworthy, especially in contrast with the high representation of these species in British Neolithic contexts (see Chapter Twelve) (Bakels and Zeiler 2005: 313).

As LBK expansion ground to a halt in the late sixth millennium BC, contacts with Mesolithic communities to the north and west were maintained. Limburg pottery, dating to this period and concentrated on the sandy soils of the western North European Plain, suggests a similar pattern to La Hoguette, with indigenous pottery-using groups engaged in close interaction with LBK settlements (Gronenborn 1999: 142). Increasingly, though, this contact took place across a static frontier, as the LBK began a process of settlement nucleation, the abandonment of some settled areas, and regionalization in artefact styles (Starling 1985: 48; Verhart 2000: 16; Sommer 2001: 255; de Grooth and van der Velde 2005: 239). Arguably, the incorporation and assimilation of native communities became less significant than their internal social transformation, as Neolithic artefacts and resources continued to be acquired and to circulate amongst Mesolithic groups (Verhart 2000: 31). In the areas surrounding the LBK, stone adzes, flint points and pottery vessels of Danubian tradition occur on Mesolithic sites or as stray finds (Arts 1990: 303; Verhart and Wansleben 1997: 69). The development of pottery styles that were more profusely decorated and regionally-specific, and the increased construction of earthwork enclosures in the latest LBK may be an

indication that the open social networks of the period of geographical expansion were now being replaced by bounded and exclusive identities (Sommer 2001: 255). In the Belgian Hesbaye region and the north German Aldenhoven plateau, the occurrence of enclosures has been linked with putative conflict between LBK and Mesolithic societies (Keeley and Cahen 1989: 169), yet it is arguable that the increasing violence of the late *Bandkeramik* period was concentrated amongst Neolithic groups. In any case, some of the enclosures in the Hesbaye appear to eventually have been neglected and allowed to silt up (Lodewijckx 2009: 44), while Pechtl (2009: 91) argues that LBK enclosures were primarily a form of status display, equivalent to but mutually exclusive with the very large houses of the same period.

Three possible 'massacre sites' date to the period 5200–5000 BC, at Asparn-Schletz in Lower Austria, Talheim in Baden-Württemberg, and Herxheim in the Rhineland (Wild et al. 2004: 384; Teschler-Nicola 2012: 119; Wahl and Trautmann 2012: 99). In each case, large numbers of bodies had been deposited (in a mass grave at Talheim, and in enclosure ditches at Asparn-Schletz and Herxheim), many of them showing lethal head-wounds caused by Neolithic stone adzes (Wahl and König 1987; Wild et al. 2004: 381). However, in the case of Herxheim, Orschiedt and Haidle (2012: 132) dispute the arguments for mass killing and cannibalism, and point out that while cranial traumas are present they are mostly healed, and affect only adults. Much of the damage that had been done to the bones is argued to represent post-mortem modification, which formed part of a complex mortuary rite. There are also a number of LBK graves dating to this period in which flint arrowheads have been identified as the cause of death (de Grooth and van der Velde 2005: 233). On balance the evidence suggests some increase in hostility and competition between late LBK communities, as retrenchment and social closure replaced the imperative to spread out and incorporate other groups. Native hunters and gatherers may have been increasingly peripheral to this process, developing their own social trajectories as the LBK network became more inward-looking, with larger settlements, more developed regional identities, and growing enmity between local social units. While it seems clear that violence was relatively common in late sixth millennium BC central Europe, the argument that this violence was conducted *between* (as opposed to *amongst* or *within*) Mesolithic and Neolithic communities (e.g. Golitko and Keeley 2007: 339) is more difficult to sustain. This chimes with ethnographic evidence that violence between farmers and hunter-gatherers is comparatively rare (Leacock 1982: 164).

THE NORTH EUROPEAN PLAIN AND SOUTHERN SCANDINAVIA

The diversity of the processes by which Neolithic ways of life became established in the Old World is particularly evident in the contrast between central Europe and southern Scandinavia (Price, Gebauer and Keeley 1995: 124). While this has often been seen as attributable to the distinction between the migration of agriculturalists and the acculturation of sedentary hunter-fisher-gatherers, other

factors may also have been involved. As in other areas that we have already considered, the beginning of the Neolithic in Denmark and southern Sweden involved locally specific relationships between indigenous traditions, external contacts, material resources and ecological conditions. One feature of the region that is particularly distinctive is its unusually rich Mesolithic evidence. This facilitates a closer focus on the transformation of hunter-gatherer societies, but transferring insights gathered from the Scandinavian material to other parts of Europe has to be undertaken with caution.

We have already seen that the initial expansion of the LBK was followed by an extended period of consolidation and eventual fragmentation. In the north-eastern part of the *Bandkeramik* distribution, in Poland and central Germany, settlement took the form of a series of distinct 'enclaves', surrounded by groups of mobile hunter-gatherers of the Janisławice, Komornica and related traditions (Nowak 2006: 145). There was clearly a degree of contact between these Mesolithic and Neolithic communities. Lithic raw materials from sources in southern central Europe and LBK shafthole adzes have been found outside the areas of agricultural settlement, while at sites like Podgaj 32 LBK pottery was recovered alongside a Mesolithic flint assemblage (Domańska 2003: 97; Nowak 2006: 145). This suggests the establishment of a relatively long-lived Mesolithic-Neolithic 'frontier', but the situation on the North European Plain and in the southern Baltic area during the fifth millennium BC was further complicated by other factors. For although the LBK had reached as far north as the lower reaches of the Vistula and the Oder, pottery had already been in use by hunting and gathering groups in the Eastern Baltic since before 5000 BC (Hallgren 2004: 123). Groups such as the Narva of Latvia and the Neman of Lithuania had acquired ceramic technology independently from the Neolithic societies of central Europe, through a series of connections that ultimately led eastwards across Central Asia (Jordan and Zvelebil 2010: 70).

When pottery eventually came to be produced by the late Mesolithic groups of northern Germany and southern Scandinavia, the Ertebølle and Ellerbek, it would combine the point-based vessels and shallow blubber-lamps of Narva and Neman with the crushed rock, grog, and organic tempering of the LBK (Hallgren 2004: 136) (Fig. 3.4). It is conceivable that the adoption of these specific vessel forms was not unconsidered copying, but served to construct a deliberately 'non-Neolithic' identity in contradistinction to the LBK, from whom aspects of technology were nonetheless borrowed. As Larsson (2007: 603) points out, these pots were also used in different ways from Neolithic ceramics, being excluded from graves and votive deposits. The spread of point-butt pottery provides an indication of the intensity of cultural interaction that was taking place amongst indigenous hunters in the areas immediately to the north of the zone of *Bandkeramik* settlement, and this was also manifested in the circulation of east Baltic amber and of various lithic materials (Zvelebil 2006: 183). So, although the broad swathe of territory between northern Poland and the Netherlands was characterized by exchange relations between the LBK and its successors (*Stichbandkeramik*, Rössen, Blicquy, Lengyel) on the one hand and Mesolithic peoples on the other, it would be wrong to see all of the social and cultural developments of the period as having been imposed on essentially passive hunter-gatherers from outside. Instead, what appears to have taken place is a lengthy period of assimilation, in which indigenous communities

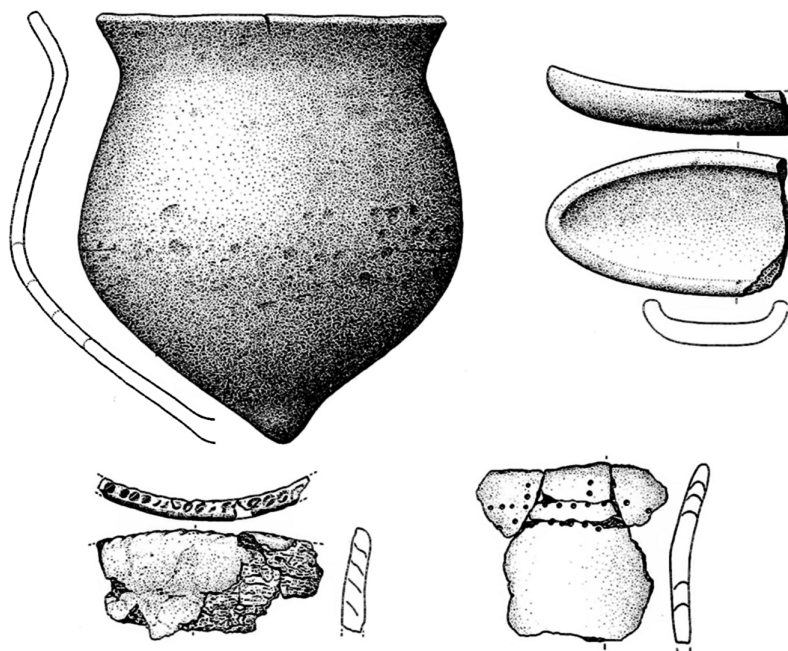


Fig. 3.4. Ertebølle pottery from Wangels and Timmendorf-Nordmole 1 (from Lübke 2005 and Hartz, Lübke, and Terberger 2007, with the kind permission of Harald Lübke, Sönke Hartz, Thomas Terberger, the State Authority of Culture and Protection of Monuments of Mecklenburg-Vorpommern, and the State Authority of Archaeology Schleswig-Holstein)

selectively adopted elements of Neolithic culture and reformulated and recombined them. This period arguably represented the prelude to the more sudden introduction of the Neolithic into Denmark and southern Sweden, during which a new 'version' of the Neolithic was slowly being pieced together.

Within this zone, the use of point-budded ceramics by communities with distinctively Mesolithic flint assemblages is documented at a series of sites dating to the late sixth and early fifth millennium: Dabki, Tanowo, Dzierzecino, and Chobienice in Poland, for instance (Cyrek, Grygiel, and Nowak 1986: 102; Koch 1998: 175; Nowak 2006: 147, 2010: 450). In northern Germany, ceramic Mesolithic sites include Schlamersdorf in Schleswig-Holstein, with pottery dated to 5300 BC (Louwe Kooijmans 2007: 297) and Hude I, on the Dümmersee, with a sequence that began around 4900 BC and with occupation continuing into the Neolithic (Koch 1998: 176). At Rosenhof and Bregenwendt-Förstermoor, small numbers of domesticated cattle bones were found in pre-Neolithic layers (Hartz, Heinrich, and Lübke 2002: 323). The authenticity of these finds is debated, and they certainly do not indicate Mesolithic cattle-herding, but perhaps the acquisition of single animals and their consumption in feasts is more probable (Rowley-Conwy 1985: 190; Hartz, Lübke, and Terberger 2007: 571). Further west, the Swifterbant of the northern Netherlands also included point-budded pots at a slightly later date, but its identification as a kind of 'Dutch Ertebølle' has recently been contested (Raemaekers 1997: 229; 1999: 186) (see below).

It is in the intensive connections between ceramic and aceramic Mesolithic and post-*Bandkeramik* Neolithic groups in northern Europe during the later fifth millennium that we should seek the origin of the cultural pattern that characterized the early Neolithic of southern Scandinavia, the *Trichterbecherkultur* or TRB. For some decades it has generally been accepted that the TRB emerged in northern Poland, and specifically Kujavia, where early radiocarbon dates are associated with, for instance, the long barrow complex at Sarnowo (Midgley 1992: 201). In this area, the TRB has been identified as having affinities with the Lengyel group, which suggests that it represents a straightforward continuation of the local Neolithic sequence (Solberg 1989: 263; Price 2000: 269). However, it has recently been pointed out that the available dates for the Sarnowo and Pikutkowo phases of the Polish TRB are few in number, often based on charcoal samples which may be subject to old wood effect, of imprecise context, and with large standard deviations when compared with the dates from Scandinavia (Johansson 2003: 64). Very few of the Kujavian TRB dates listed by Rzepecki (2004: Table 18) fall before 4000 BC. This would seem to give credence to Nowak's argument that the TRB developed in Schleswig-Holstein and the Lower Elbe, perhaps no earlier than 4100 BC and spread to east-central Europe around 4000 BC (2001: 584, 2006: 148). Recent dates from the Baltic island of Rügen also place the beginning of TRB at 4100–4000 BC (Lübke and Terberger 2002: 51). However, beyond identifying the temporal parameters of such an archaeologically-defined cultural entity, it is important to consider what kind of a phenomenon the TRB represented.

The spatial distribution of TRB sites in eastern Europe reveals a very significant contrast with earlier Neolithic settlement patterns. Whereas the LBK and its successors had been concentrated into distinct areas, TRB sites and artefacts were dispersed across entire landscapes (Nowak 2001: 582, 2006: 148). The segregation of Mesolithic and Neolithic communities came to an end in many areas, indicating that both populations had come to adopt a common material assemblage. In other words, the TRB provided an integrating cultural framework which drew on hunter-gatherer and agriculturalist traditions, comparable with but distinct from that which had been afforded by the early LBK. So as much as Mesolithic groups were incorporated into the Neolithic world, Lengyel communities 'went native', as Zvelebil (2005: 93) puts it. This cultural fusion was manifested in the essentially Mesolithic forms of body-treatment found in TRB earth-graves and long barrows, in the presence of Mesolithic motifs such as ladder-patterns on early TRB pottery, and in the replacement of the balance of sheep, pigs and cattle found on most Lengyel sites with a combination of hunted species and cattle (Zvelebil 2005: 95). The latter indicates a continuation of the trend that we have already identified in the LBK, in which livestock became progressively less a support to the horticultural regime, and more a form of mobile wealth and a source of large quantities of meat to be consumed at substantial social gatherings. This in particular may have proved especially attractive to former hunters and gatherers.

The recognition that the TRB presence in Schleswig-Holstein was as early or even earlier than that in Kujavia has important implications. While there appears to have been a relatively sudden change from Ertebølle-Ellerbek Mesolithic to TRB Neolithic at around 4100 BC, with little indication of overlap between the two, there very often seems to have been continuous occupation of particular sites

across the transition (Thorpe 1996: 47; Hartz, Heinrich, and Lübke 2002: 324). At early TRB sites like Rosenhof, Wangels, and Siggeneben Süd, new ceramic forms such as funnel beakers and amphorae were combined with Ertebølle-style blubber-lamps, as well as Mesolithic chipped stone and worked antler assemblages (Koch 1998: 178; Street et al. 2001: 424; Hartz, Heinrich, and Lübke 2002: 328). Pots of Michelsberg affinity were present at Rosenhof, alongside the funnel beakers (Malmer 2002: 18). This apparent pattern of a new cultural formation emerging from the fusion of elements from different sources seems comparable to the earliest LBK in Transdanubia, described earlier in this chapter. The presence of cattle, sheep and pig now amounted to more than their sporadic occurrence in the late Mesolithic, and emmer wheat has been reported, although these species occurred alongside red deer. Finds of leister prongs at some sites suggest that eels provided a significant source of food (Persson 1999: 195). All the indications are that the indigenous Mesolithic population of northern Germany were actively engaged in the formulation of a new way of life, in which domesticates and new ceramic forms were added to existing repertoires. The extension of this pattern across Denmark and Scania took place over a period that may have amounted to no more than a century, and is best understood against the background of these developments in Schleswig-Holstein.

In southern Scandinavia the Later Mesolithic Ertebølle contrasted with the earlier Kongemose in that rather specialized hunting patterns were replaced by the acquisition of a much broader spectrum of foods, both terrestrial and marine (Andersson et al. 2004: 156). The locations of both dwelling sites and cemeteries appear to emphasize the coastal areas, although these patterns are likely to have been enhanced by the history of archaeological research (Andersen 2004: 408; Larsson 2004: 386). The Ertebølle itself underwent significant changes in the period 4900–4700 BC, and these may be related to the effects of indirect contact with ceramic Mesolithic groups in the East Baltic and agriculturalists in the south. In this period, Ertebølle pottery emerged for the first time, and the character of funerary activity became more restrained, with red ochre and deer antlers ceasing to be deposited in graves (Strassburg 2000: 292). The coincidence of these developments hints that some of the importance formerly attached to funerals was transferred to other social contexts, particularly those involving the shared consumption of food. Ertebølle pottery was better suited to cooking than storage, and this indicates that the places at which it was used and deposited were above all places of consumption (Koch 1998: 48). The period was one in which the acquisition of marine foods increased considerably, especially the collection of molluscs, and the formation of numerous shell-middens is a well known feature of the late Mesolithic (Andersen 2004: 398). The study of food residues on vessels from Tybrind Vig and Ringkloster has demonstrated that they were used to cook shellfish or fish, sometimes in combination with terrestrial foods (Strassburg 2000: 301; Craig et al. 2007: 142). Of course, one of the important aspects of the adoption of pottery is that it enables different foods to be cooked together as soups or stews, blending flavours to create distinctive and unfamiliar forms of cuisine. While the limited portability of Ertebølle pots can be taken as an indication of a reduction in the mobility of hunter-fisher-gatherers in the final Mesolithic, it could equally mean that this new culinary alchemy was restricted to particular locations within the landscape, and that the consumption of composite

foods was limited to the times when those places were occupied. In other words, special foods were being created that distinguished particular occasions or events. The scale of the cooking activity at some of these sites, as for instance with the large hearth at Ertebølle, suggests that some at least of this was communal feasting rather than the preparation of everyday meals (Milner 2002a: 92).

The model of 'sedentary hunters' in the Ertebølle period has been an influential one in recent years. The suggestion is that large base-camps were occupied year-round, and that task-groups would periodically leave these sites for smaller, temporary, specialized camps in order to acquire seasonally available resources. Hunting and fishing at these seasonal locations was held to have continued into the Neolithic, by which time the larger settlements had dispersed as farmsteads in different locations were established (Rowley-Conwy 1983: 125). This pattern has begun to break down in the light of more recent research: some large sites like Bjørnsholm have produced traces of Neolithic activity, while the range of Ertebølle sites is increasingly seen as a continuum rather than dividing neatly into 'large' and 'small' (Milner 2002a: 4; Johansen 2006: 202). Coastal sites, and particularly the shell middens, often provide evidence for having been visited over a very long period of time. They also frequently contain the remains of species of animals, fish, birds and molluscs that would have been hunted or collected in different seasons, suggesting a human presence throughout the year. Such evidence is equivocal however, and the presence of indicators for all of the seasons need not indicate that the intensity of activity did not fluctuate, or that people were always present year-on-year (Price et al. 2001: 60). The continuous and unbroken occupation of these sites is thus not conclusively proven, and the character of deposition often suggests that activity was sporadic and episodic, and even in some cases punctuated by periods of abandonment (Johansen 2006: 204). The argument for increasing sedentism over time may not be entirely convincing, and it might be more helpful to suggest that as the Mesolithic progressed a series of special locations developed in which a range of practices that involved consumption and transformation were increasingly concentrated. In these places specific activities and performances were conducted repeatedly, so that their significance was maintained over long periods (Johansen 2006: 204). It is conceivable that precisely who was present at these sites may have fluctuated in the course of the year, with particular groups coming and going (Strassberg 2000: 316).

The identification of the Ertebølle with dense, sedentary settlement is connected with the notion of hunter-gatherer social 'complexity' (Rowley-Conwy 1983: 112, 1984: 300), although this view is not universally accepted (Nielsen 1986). Complex hunters, living year-round in favourable locations which enabled access to a range of seasonally-available migratory resources, are presented as pursuing a trajectory which need not necessarily lead toward the adoption of agriculture. Instead, it provided an alternative means of sustaining social and cultural elaboration (Rowley-Conwy 1985: 188). Since migrating mammals, birds and fish would come periodically to the vicinity of the settlement, sedentary hunters were able to maintain complicated forms of technology to facilitate mass capture (such as traps, nets and fish-weirs), and to invest in storage facilities (Rowley-Conwy 1984: 301). Complex social arrangements would be likely to emerge alongside these developments, both as a means of coping with bad years through reciprocity and

in order to overcome the disputes and fractiousness that are likely to arise when people live permanently alongside each other. Of course, these are functionalist arguments, which tend to imagine that the outcomes of particular developments can be conflated with their causes. More seriously, Graeme Warren (2005: 74) has pointed out that the 'complex hunter' model is an abstract evolutionary category, which implies that the intensification of economic activity amongst hunter-gatherers is likely to follow a particular stereotypical course. It follows that a rather limited range of ethnographic examples will be imposed onto the archaeological evidence, and a restricted set of causal mechanisms invoked.

While the Scandinavian shell-middens were often very long-lived, the structural evidence for permanent settlement associated with them is often modest. Some, like Meilgård, may have scatters of pits and post-holes beside them on the landward side, but at others such as Norsminde even these traces are missing (Andersen 2004: 399). Huts, shelters, or houses are generally absent (Andersen 1991: 65), but the midden areas themselves are often highly structured, with distinct fireplaces, working areas and dumps. The activities that were conducted at the middens include flint-knapping, the working of the bones of animals, dolphins and whales, the manufacture of pots, the skinning of fur-bearing animals, and perhaps the plucking of feathers from ducks and swans (Strassburg 2000: 312–14). At the relatively small midden of Norsminde, for instance, deposited material including knapping debris and dense clusters of fish-bones was concentrated around three fireplaces in distinct piles and lenses (Andersen 1989: 21). Many of these activities are also represented at other late Mesolithic sites, so it may be that the presence of large quantities of shell debris was not a definitive feature that singled particular locations out as being in some way 'special'. Instead, it may have been the spatial concentration of a variety of different practices involving the transformation and recombination of materials that was critical. Human bodies, too, were transformed at these locations, through adornment (with furs, beads, feathers) and through items that extended their bodily capabilities (producing tools of flint and bone). Arguably, shell middens *and* other focal sites in the late Mesolithic established the conditions under which these transformations were socially sanctioned. While some sites of the period, like Tågerup in Scania, have produced the evidence of buildings that might be expected at major permanent settlements, the middens have not. The notion of 'complex hunters' implicitly or explicitly refers to the north-west coast of North America, where the elaborate social arrangements of the Kwakiutl, Haida, Nootka and Salish were connected with the control of seasonal salmon fisheries. Yet here, substantial dwelling structures were present in settlements that were only occupied for part of the year, with house frames left in place to allow later re-occupation (Rosman and Rubel 1971: 130; McMillan 1988: 181; Arnold 1995: 741). The lack of such evidence at the Ertebølle middens makes their claim to have been year-round settlements seem less substantial.

In many cases, the sites at which shell debris began to accumulate from the earlier fifth millennium onwards were places that already held some significance. There were distinct pre-midden layers at Bjørnsholm and Ertebølle, dating to the period 5400 to 4600 BC, and characterized by a relative lack of marine shells (Fig. 3.5). At Lollikhuse and Vaenge So III, traces of pre-midden occupation included hearths and dwelling structures, and a series of substantial stone-built

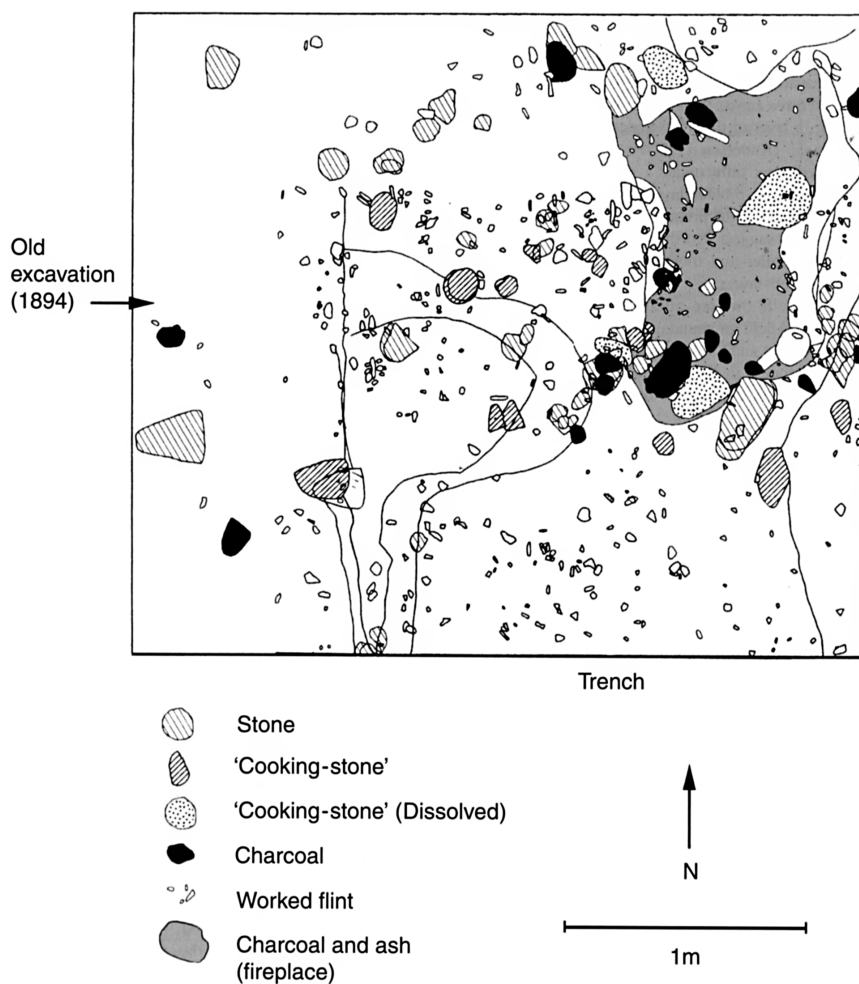


Fig. 3.5. Part of the pre-midden layer under the Ertebølle midden (from Andersen 2004, with the kind permission of Søren Andersen)

hearths were present at Norsminde (Andersen 1989: 20; Sørensen 1993: 20; Andersen 2004: 397). Moreover, where cemeteries were associated with middens, they generally appear to have been early in the sequence, sometimes predating the accumulation of shell material altogether (Johansen 2006: 203). The relationship between middens and cemeteries is therefore rather different from that in Iberia, in which the midden provides the context for the deposition of the dead (Larsson 2004: 378). None the less, isolated fragments of human bone (especially skull fragments) are often found amongst the deposits at shell middens and other Later Mesolithic sites. These are often explained as having been washed or eroded out from graves, but it may be that practices involving the handling or processing of

the remains of the dead were conducted alongside the other body-related activities at these sites (Strassburg 2000: 323). It is probable that both burials and settlement traces amounted to a tangible presence of the past, which created the conditions under which the shell middens and their associated activities could be brought into being. Tilley (1996: 57) emphasizes the way that visitors to such sites would have been 'feasting with the dead', but more generally the past generations may have been understood as offering protection or sanction for acts of consumption and transformation, which might only have been legitimate under these conditions. The dismembering or exposure of the bodies of the recently deceased may have been incorporated into these practices, presided over by an established ancestral presence. Mesolithic cemeteries have often been understood in territorial terms, as a means of laying claim to land and resources. However, it may be that those that were small or short-lived rather than receiving burials over many generations represented a means of founding a location that was at once special and exclusively associated with a particular community.

Although marine foods grew in importance through the Later Mesolithic, both hunting and collecting remained important throughout. Plant foods, including hazelnuts, chestnuts, apples, berries and acorns were of considerable dietary importance, and stone tools often display the characteristic polish resulting from cutting plant fibres (Richards, Price, and Koch 2003: 288). The most significant land mammal was the red deer. Although deer antler ceased to be deposited in mortuary contexts, it was used to make T-shaped axes, derived from Rössen and Lengyel prototypes and demonstrating the growing importance of contacts with the Neolithic world (Tilley 1996: 62). Earlier in the Ertebølle period, specialized, seasonal inland hunting sites like Bökeberg III in Scania had existed, where butchering and hide working were combined with the deposition of bone and antler objects and human skull fragments in a lake (Andersson et al. 2004: 138). But the continuing (indeed, increasing) diversity of Ertebølle hunting and collecting practices is demonstrated by a variety of smaller and impermanent sites in which a single species appears to have been of prime importance, although generally alongside some evidence for the hunting of terrestrial mammals (Thorpe 1996: 69). Thus Aggersund had a preponderance of bones of whooper swans, Vaengesø showed evidence of whaling, Øleby Ling produced remains of harp seal and porpoise, Øgaade had white-tailed eagle, and Hjerl Nor was dominated by fur-bearing mammals (Milner 2002a: 2). Neither eagles nor fur-bearers were taken for strictly dietary reasons, and the acquisition of feathers and furs indicates the importance of goods that might be used to enhance personal appearance both within Ertebølle society and in its long-distance contacts. The important site of Ringkloster demonstrates these points very clearly. Pine marten, otter, wild cat, badger and fox, and young red and roe deer were hunted for their skins, alongside boar, red deer, aurochs, some of whose meat was taken away for consumption elsewhere (Andersen 1995: 14). Although the site was inland, bones of dolphin, saithe, cod and flounder were recovered. Occupied in the winter and spring, Ringkloster was evidently connected to the coast by seasonal movements or exchange relations, but the intensive acquisition of skins and furs suggests involvement in broader regional relationships.

Similarly highly structured and organized economic activities are demonstrated at the coastal sites, where fish-traps, fish-weirs, and dugout canoes demonstrate a

willingness to invest effort in material facilities that would enable large quantities of fish and eels to be taken during the times of year when they were available (Tilley 1996: 59). At Tybrind Vig, a specialized fishing location has been investigated, where fish-traps and fishing equipment were found alongside a cobbled dock area where canoes were drawn up (Andersen 1985: 55). The two boats that were discovered contained patches of clay that held small hearths used as eel-flares, and leister prongs were also present. This emphasis on eels was also seen at Bjørnsholm, and amongst the coastal sites in general there appears to have been a pattern of specific communities concentrating on particular species (Thorpe 1996: 69). Like Ringkloster, Tybrind Vig produced extensive evidence for the skinning of fur-bearing creatures, and this seems to have increased in intensity from 4500 BC onwards. Other sites, such as Agernaes on Fyn, also demonstrate a growing concentration on furs and skins toward the end of the Mesolithic (Richter and Noe-Nygaard 2003: 17). The obvious conclusion is that as well as circulating amongst Ertebølle communities and enabling personal adornment at social events to become increasingly elaborate, these goods were exchanged over longer distance to Neolithic groups who were providing prestigious objects of other kinds (Zvelebil 1996: 335; Fischer 2002: 369).

The circulation of artefacts was evidently of great significance throughout the Later Mesolithic. Flint travelled considerable distances from sources in Scania, for instance, apparently passing between social groups (Tilley 1996: 50). Ertebølle communities formed a tight web of exchange and other relationships, and Johansson (2003: 61) argues that it was this degree of integration that can be held responsible for the virtually synchronous beginning of the Neolithic throughout Denmark and southern Sweden. But on the other hand, artefacts of distinctive kinds were apparently used as markers of identity by mutually exclusive social groups established in different parts of southern Scandinavia. Thus groundstone Limnhamn axes are concentrated in Zealand and Scania, T-shaped antler axes predominate in Jutland, and three distinct kinds of flaked flint axes occur in Zealand (Madsen 1997: 75). Bone combs are numerous in north-east Jutland, curved antler harpoons occur preferentially in Zealand, and bone rings in Jutland, while pottery bearing decorative designs is found in a limited area of East Jutland (Price 1991: 225; Andersen 1995: 14; Tilley 1996: 52–4). The spatial extent of the regions ranged over by these social groups is hinted at by stable isotope dietary analysis, in which the bones of dogs have been used as proxies for missing human beings. In the Åmose basin of Zealand, Noe-Nygaard (1983) observes that dog bones recovered inland produce evidence of an entirely terrestrial diet, while at the equally landlocked Ringkloster one dog exhibited a partially marine signature (Andersen 1995: 50). In other words, communities in central Zealand were restricted to the interior and were merely interacting with coastal groups, while in East Jutland seasonal movements took people between the coast and places inland. Significantly, though, many of the long-distance contacts of the Later Mesolithic in Scandinavia appear to have been water-born. Artefactual similarities link the island of Bornholm with Scania, while the introduction of Neolithic artefacts into both Denmark and Sweden seems to have taken place by way of Lolland and Falster (Fischer 2002: 379). The recovery of very substantial sea-going canoes from waterlogged contexts corroborates this evidence (Price 1991: 221).

This evidence for intensive exchange relations coupled with tightly-defined group identities has some bearing on the way that we should evaluate the lengthy period of apparent stasis during which, following the establishment of the LBK in Germany and Poland, the expansion of the Neolithic was halted. This was the so-called 'availability phase' of more than a millennium, during which hunters and gatherers in Scandinavia would have had access to domesticated resources but only embraced them to a limited extent (Zvelebil and Rowley-Conwy 1984: 110). This resistance to Neolithic innovations has been alternately attributed to the richness and reliability of the resources available to the Ertebølle groups (which rivalled domesticates), or to the social complexity of the hunter-gatherers, or to their population density (Rowley-Conwy 1983: 125; Price 2003: 275). In each case, the argument is that existing conditions were such that no advantage was apparent to the indigenous communities in adopting agriculture, and some further factor was required to bring about change, whether ecological or social. What is interesting is that in Schleswig-Holstein the incorporation of hunter-gatherer groups into the Neolithic sphere was earlier and more gradual (Fischer 2002: 379). Koch (1998: 175) argues that for much of the fifth millennium BC the contact between Ertebølle groups and fully agricultural communities was indirect, with artefacts such as shaft-hole adzes entering Scandinavia through a chain of contacts across northern Europe. This was perhaps reflected in the increasing number of central European objects that found their way into Scandinavia in the later fifth millennium BC (Klassen 2004: 50; Larsson 2007: 596). It would follow that the period during which *direct* access to domesticates and cultigens would have been available prior to the beginning of the Neolithic might have been only around four hundred years. However, this remains a very long period of contact, and it seems very likely that the circulation of exotic goods from distant places at an earlier date would have brought with it stories about strange people, unusual animals, and a new way of life.

The most tangible traces of this direct or indirect interchange between hunter-gatherers and farmers are around 180 stone shoe-last adzes, numerous T-shaped antler axes (only a few of which will have been imports), a smaller number of Alpine jadeitite axes and imitations thereof, and a few copper axes of Balkan origin dispersed around the Western Baltic (Klassen 2002: 305, 2004: 89) (Fig. 3.6). The former of these were for long considered to have been ploughshares of TRB date, but their use amongst post-LBK groups as grave goods suggests that they were objects of both value and symbolic import (Fischer 1982: 8–10) (Fig. 3.7). The shifting patterns of central European contacts through which the various objects found their way into southern Scandinavia have been meticulously identified by Klassen (2004: 50). But we have seen that this influx was complemented by an escalation in the hunting of fur-bearing animals. It may be that other, less archaeologically visible transfers took place alongside these. Zvelebil (2004: 50) argues that the circulation of marriage partners may have been a means by which relations between different communities were maintained, with the effect that various forms of cultural knowledge would begin to be disseminated in both directions. Jennbert (1997: 52) adds that along with people and artefacts, the products of herding and horticulture are likely to have changed hands. Pottery vessels acquired by hunter-gatherers may have contained foodstuffs, for instance. In the first instance, indigenous communities are unlikely to have identified these

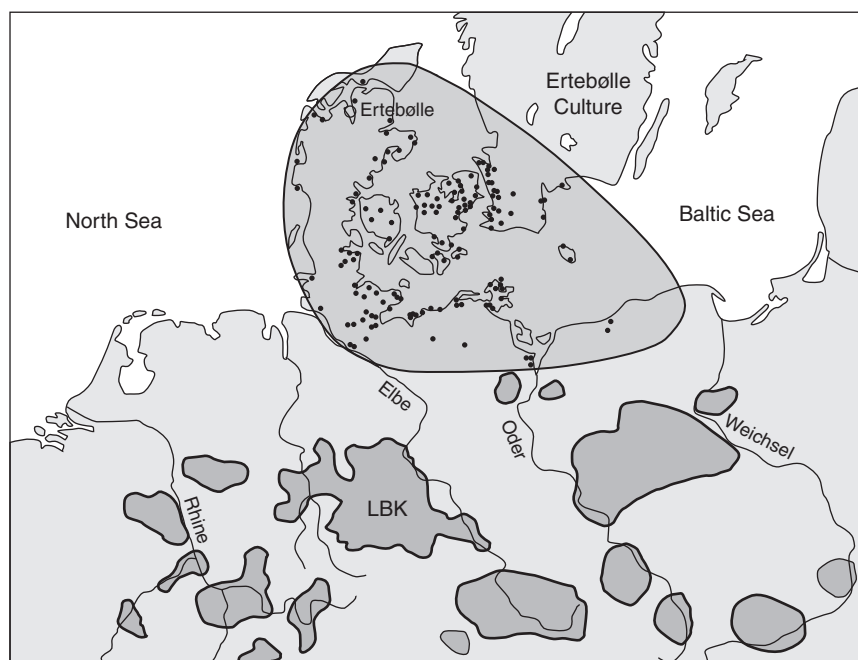


Fig. 3.6. Distribution of Danubian shafthole adzes in southern Scandinavia (drawn by Joanna Wright, after Klassen 2004)

things as potential staples, capable of replacing wild plants and animals. Instead, they would have been understood as exotic luxuries, much as non-western societies encountering Europeans for the first time recognized their trade goods as prestige items (Jennbert 1985: 197; Larsson 2007: 604). Presented for consumption in the context of competitive feasting, such foods would represent a gift that was both highly valued and difficult to return, so that they might help to establish positions of relatively enduring authority. The imperative to keep herds and grow crops might then arise not from any immediate need to replace wild resources, but from the potential strategic advantage of being able to reproduce highly valued foods.

This is an attractive argument, but the evidence for pre-Neolithic domesticates in Scandinavia remains equivocal. Perhaps the strongest case for domesticated cattle bones in a Mesolithic context is that of Smakkerup Huse on Saltbæg Vig (Noe-Nygaard, Price, and Hede 2005: 857). These remains are unlikely to be aurochs, as the species had been extinct on Zealand for a thousand years beforehand (Price et al. 2001: 58). Yet the radiocarbon date of around 3900 BC is rather late, and the relationship of the material to the Mesolithic-Neolithic transition is unclear. Potentially early cattle and sheep remains were discovered at Lollikhuse on Roskilde Fjord, but otherwise the earliest cattle bones in Scandinavia that are morphologically distinct and stratigraphically unassailable are from Øgaarde in central Sjaelland, dated to 3810 BC (Rowley-Conwy 1995: 120). Domesticated cattle remains dated to c.4050 BC, together with cereal impressions in Ertebølle

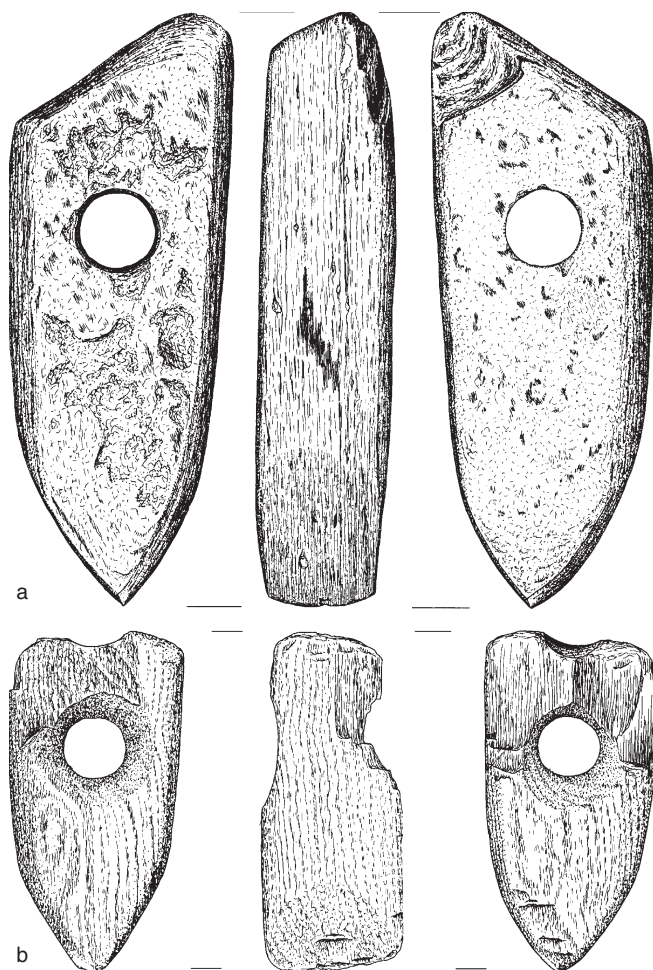


Fig. 3.7. LBK shafthole implements imported into southern Scandinavia (after Fischer 2002, with permission)

ceramics, are also reported from the coastal Scanian site of Lödödsborg (Jennbert 1985: 196; Fischer 2002: 345). Yet the recovery of Mesolithic and Neolithic material from the same contexts at Lödödsborg has given rise to a continuing debate over whether the deposits had been redeposited and mixed, or whether archaeologists were simply unwilling to accept the existence of an assemblage that combined Mesolithic and Neolithic elements (Johansen 2006: 216). While many Danish and Swedish archaeologists accept that there may have been a continuous development from Ertebølle to TRB, and that the human populations involved were essentially identical, they are less convinced that the two cultural patterns existed side-by-side for any appreciable period (Larsson 1986: 245; Nielsen 1986: 240). There are numerous other sites beside Lödödsborg where both Ertebølle and TRB material are present, but there is generally a distinct change from one to the other (Malmer 2002: 16).

Given the long-term stability of the Ertebølle even after contact with Neolithic societies had been established, the very sudden onset of change after 4000 BC is all the more difficult to explain. One argument is that gradually rising population and increasing pressure on resources eventually led to a critical point at which change to a more productive subsistence system could no longer be avoided. However, this case is hard to substantiate (Price 1996: 355, 2000: 300; Larsson 1987: 324). While an increase in the scale of permanent coastal settlement has been claimed in the late Mesolithic, it is possible that earlier sites have been lost to sea level rise (Rowley-Conwy 1985: 194; Fischer 2002: 368). Growing evidence for interpersonal violence is sometimes cited as a proxy indicator of pressure on resources, but signs of physical trauma on human remains seem to be constant throughout the Mesolithic (Fischer 2002: 372). For instance, skeletons with lethal injuries at the Skateholm I and Vedbæk cemeteries date to the earlier, pre-ceramic phase of the Ertebølle (Thorpe 2003: 155).

A more sophisticated version of the resource-stress model emphasizes the seasonality of the late Mesolithic subsistence regime. On this view, the richness of the food sources available to Ertebølle communities was unevenly distributed through the year, with terrestrial resources being at their most fruitful in the summer and autumn, and migratory marine mammals and birds concentrated in winter (Rowley-Conwy 1983: 119). The remaining 'gap', of two to three months in the spring, was fortuitously filled by the post-glacial rise in sea level, which allowed marine oysters to colonize the coasts of eastern Denmark (Rowley-Conwy 1984: 301). Oysters consequentially amounted to a seasonal food, which tided people over until more nutritious resources were available, and this accounts for the growth of shell-middens in the Later Mesolithic. However, at the end of the fifth millennium BC conditions changed again, with a reduced tidal flow bringing less salt water into the coastal zone. Although oysters require much the same temperature and salinity as cockles and muscles, which continued to be collected in large numbers into the Neolithic (Milner 2002a: 90), the suggestion is that they were now restricted to deeper water, and no longer accessible (Rowley-Conwy 1984: 306). While other aspects of the Ertebølle seasonal cycle remained as productive as ever, it became necessary to introduce domesticates, in order to overcome the spring famine. Yet the conflicting demands of gathered and cultivated resources on labour would have led to a scheduling crisis, and this would swiftly have precipitated a complete dependence on farming (Zvelebil and Rowley-Conwy 1984: 112).

There are both theoretical and empirical objections to this somewhat convoluted explanation. In the first place, many coastal Ertebølle groups would never have had access to oysters, as marine conditions were unsuitable in Scania and the Danish islands (Tilley 1996: 72). It is hard to see why the decline of the oyster would have forced these communities, and inland hunter-gatherers, to change. Moreover, it has also been suggested that the preservation and storage of fish could have compensated for the seasonal food shortage (Madsen 1986: 235). The argument concerning a 'scheduling crisis' is also not entirely convincing, as it is unclear why *all* communities would adopt agriculture abruptly and simultaneously. If some groups took up cultivation and herding, while others continued to concentrate on hunting and gathering, an inter-community division of labour would both compensate for seasonal shortages and prove more resilient to risk.

The universal change from Ertebølle to TRB suggests that factors other than the strictly economic were involved. Furthermore, the argument is that the start of the Neolithic followed, and was caused by, the decline of the Baltic oyster. Yet at the midden of Bjørnsholm the change from oysters to cockles took place *after* the appearance of TRB material, while at Visborg it seems to have been even later (Andersen 1991: 74; Andersen 2004: 409).

Despite these deficiencies, resource-crisis arguments do have the virtue of addressing the suddenness of the Scandinavian Mesolithic-Neolithic transition, in contrast to the lengthy period of coexistence that preceded it. This was very different to the more gradual progression from hunting and gathering to farming that we have seen in some parts of Mediterranean Europe (see Chapter Two) (Price 2003: 280). The rapidity of change has also been explained in terms of the mutual incompatibility of two different cultural systems (Nielsen 1986: 240), although it is often recognized that new practices and resources were combined with continuity in some areas of life (Andersen 1989: 38). This combination of continuity and change generally encourages the view that indigenous people adopted a Neolithic way of life (Nielsen 1986: 240; Malmer 2002: 16). Some see this as a very swift process, in which material innovations and a new worldview were taken up simultaneously (Klassen 2004: 252). Others prefer to see elements such as polished stone axes, new funerary practices, more complex pottery styles and votive depositional activities gradually added after the initial horizon of change (Fischer 2002: 361).

Of course, the abrupt onset of the Scandinavian Neolithic could also be compared with the LBK expansion, and this might encourage an explanation in terms of population movement. Such a migrationist perspective was proposed by Solberg (1989: 265), who argued that the spread of LBK farmers had been constrained within the loess and gravel landscapes of central Europe by their underdeveloped agricultural practices. The TRB, created on the North European Plain through the interaction of Mesolithic and Neolithic societies, introduced slash-and-burn cultivation and ploughing, which enabled new soil types to be worked, creating the conditions for the colonization of southern Scandinavia. Solberg stressed the simultaneous arrival in Denmark and Scania of a range of Neolithic novelties, and suggested that they represented the equipment of a distinct group of people, 'land-hungry and adventurous immigrants from the agricultural cultures further south' (Fischer 1982: 7). In some areas, such as the Oslo fjord, the TRB assemblage appeared in places that had been uninhabited during the Mesolithic, suggesting that 'TRB people' were entering the region from elsewhere (Solberg 1989: 267; Prescott 1996: 77). However, this conflicts with the evidence that some elements of the Scandinavian Neolithic may have become established at slightly different times, with pottery preceding changes in the lithic assemblage, monumental tombs beginning later still, and the introduction of agriculture being staged and progressive (Fischer 2002: 361). More seriously, Fischer (2002: 364) points out that it is hard to imagine how Schleswig-Holstein could have provided enough people to supplant the Ertebølle population within a single generation, without itself being entirely depopulated.

Where resource-stress arguments present the extended resistance to the Neolithic in southern Scandinavia in terms of the robustness of the Ertebølle economy, other views emphasize cultural resistance. Malmer (2002: 19) argues that the

cultural innovations of the Neolithic may have been rejected by the dominant members of Ertebølle society on the grounds that they were divisive and likely to give rise to conflict. Similarly, Sundström suggests that agriculture may have been recognized as inimical to the hunter-gatherer way of life, and particularly as corrosive of egalitarian social relations (2004: 188). Yet the replacement of the Lengyel and Rössen traditions by the TRB brought about a fundamental change in the Neolithic, in which aspects of hunter-gatherer social relations and values were incorporated into an existence that relied on domesticated resources. This manifested itself in the continuous referencing of Mesolithic practices and places, so that an ancestral past in which people had been mobile hunters was both acknowledged and venerated. Alternatively, Zvelebil and Lillie (2000: 87) propose that Ertebølle people found themselves obliged to engage in herding and cultivation at the point when their formerly reciprocal exchange relations with Neolithic groups became increasingly unbalanced and disruptive.

In any case, accounts that emphasize the transformation of indigenous societies are strongly supported by the extensive evidence for various forms of continuity from Mesolithic to Neolithic. TRB ceramics in southern Scandinavia are similar in many ways to the Ertebølle pottery that preceded them. The tempering recipes, coiling techniques, fabrics and firing temperatures are comparable, although there are new and more diverse vessel forms and decorative motifs. The thick-walled cooking vessels of the TRB are notably similar to Ertebølle pots, while Koch's 'Type 0' funnel-beakers were effectively a transformation of point-buttled beakers (Price, Gebauer and Keely 1995: 103; Koch 1998: 175; Fischer 2002: 350). Moreover, the distinctive style-zones of Scandinavian early TRB ceramics (Oxie, Velling and Svaleklint) corresponded spatially with the various artefact groupings of the late Mesolithic, discussed above (Koch 1998: 51, 181; Strassburg 2000: 338). In other words, artefacts continued to be used to mark out the same social boundaries as had existed in the Ertebølle. Some aspects of stone tool manufacture demonstrated a degree of stability: although polished flint axes were a new artefact type, the polishing of stone axes had already been practiced for three thousand years (Johansson 2003: 66). Similar lithic reduction sequences continued to be employed, although new tool-types were added to the assemblage (Larsson 1985: 30; Malmer 2002: 17).

While Solberg (1989: 284) argued that the deliberate deposition of objects in bogs and other wet contexts was a new, Neolithic practice, it appears that Ertebølle ceramics, core-axes, round-buttled axes, Limnhamn axes, deer antler axes, amber beads, animal tooth beads, and shoe-last adzes had all been placed in the same wetland areas as TRB pots (Jennbert 1997: 53; Koch 1998: 237). It might be argued that the introduction of pots, transverse arrowheads, polished axes and cattle limbs (perhaps joints of beef) into shell middens during the earliest part of the Neolithic could be seen as the extension of this practice to a context whose importance was changing (Strassburg 2000: 349). This apparent regard for places that had held significance during the Mesolithic was matched by an emphasis on living in areas that had been occupied by hunter-gatherers, as with numerous sites in Store Åmose (Andersson et al. 2004: 155). Continuity in the use of place is epitomized by Bjørnsholm, where Neolithic occupation beside the shell-midden was superseded by the constriction of a long barrow (Andersen 1991: 89; Bradley 2005: 109). Indeed, there was continued occupation at many Mesolithic coastal

sites into the Neolithic, especially in Denmark (Andersen 2008: 72). Such evidence lends some credence to Sundström's view that the hunter-gatherer past was revered during the early Neolithic. Moreover, it has been noted that the spatial extent of the TRB in Scandinavia corresponded very closely with that of the Ertebølle (the Oslo fjord being the conspicuous exception) (Knutsson and Knutsson 2005: 16). Mesolithic communities in northern Sweden that had not been incorporated into the Ertebølle sphere were not drawn into the TRB either. So, while the subsistence regime of the Ertebølle represented an alternative to, rather than a preparation for the Neolithic, it is conceivable that the social or cultural practices of Ertebølle people predisposed them to embrace a Neolithic way of life. Indeed, it is possible that the social organization of Ertebølle communities was entirely different from that of Mesolithic communities further to the north, and involved more developed forms of property relations in relation to material things.

At a regional level, the continued use of particular locations on the coast was combined with a shift of human activity toward the interior (Johansen 2006: 215). None the less, the distribution of Limnhamn axes demonstrates that inland areas had continued to be frequented throughout the Later Mesolithic (Larsson 1986: 244). Fishing and hunting places of Mesolithic ancestry continued to be used, but small new occupation sites were also established. This has sometimes been interpreted in terms of a proliferation of isolated farmsteads, but it seems that this view sometimes relies on little more than the distribution of artefacts, and particularly flint axes (Johansson 2003: 47). Rectangular and trapezoidal houses became more common from the start of the Neolithic, although some of these buildings were already constructed during the Later Mesolithic (Andersson et al. 2004: 150). Interestingly, one of the distinctive archaeological signatures of the earliest Neolithic in Scandinavia consists of groups of shallow pits, containing deliberately deposited artefacts and faunal remains, apparently marking the locations of transient habitations (Andersson et al. 2004: 158). It is generally maintained that the scale of cultivation during the initial phases of the Neolithic was very limited indeed (Malmer 2002: 18). Sickle gloss on stone tools, seed impressions in ceramics and pollen evidence are extremely scarce (Fischer 2002: 349). Small quantities of domesticated foods were added to the existing range of gathered and hunted resources, possibly taking on a particular importance at otherwise lean times of year (Fischer 2002: 381; Price 2003: 279). Livestock, and particularly cattle, may have been more significant than crops, and there is evidence that forest clearings were being opened to provide them with grazing (Noe-Nygaard, Price, and Hede 2005: 866). Early TRB pots from bog contexts in the Åmose have produced surface residues that indicate their use to hold milk as well as the flesh of freshwater fish (Craig et al. 2007: 145).

This modest evidence for dependence on domesticated plants and animals needs to be reconciled with the apparently more radical shifts in diet signalled by stable isotope analysis of human bones. It was in Denmark that Henrik Tauber (1981) pioneered the use of carbon isotopes to assess the ratio of marine to terrestrial protein consumed by people over the course of a period of years prior to their death (see Madsen 1986: 232–4). Tauber reported a rapid change from aquatic to land-based diets at the start of the Neolithic, and this is conventionally glossed in terms of the abandonment of hunting-fishing-gathering and the

adoption of domesticates. Correcting Tauber's radiocarbon dates for marine reservoir effect, Richards, Price, and Koch (2003: 290) confirm both a gradual increase in the emphasis on marine protein over the Mesolithic, and a change to terrestrial diets at around 4000 bc. However, they also point out that the shift is one from diversity in the Mesolithic, with even some of the bones from shell middens producing terrestrial signatures, to homogeneity in the Neolithic (at least in Denmark) (Richards, Price, and Koch 2003: 292). As Persson suggests, the process involved could have been as much concerned with social organization and the structure of everyday life as with the introduction of new food sources (1999: 196). Moreover, the nitrogen isotope values from Neolithic bog bodies from the Åmose and the megalithic tomb of Aldersro suggest an emphasis on mammal meat or milk rather than cereals (Richards, Price, and Koch 2003: 291). Further north, in Sweden, Kirstin Lidén's analyses suggest a less distinct dietary transition at the start of the Neolithic. Cereals appear to have had very little impact on diet at all here, and marine resources continued to be significant to coastal communities at least (Lidén 1995a: 25). As in Denmark, some groups appear to have consumed large quantities of land mammal protein, as demonstrated by results from the Rösberga megalithic tomb in Västergötland (Lidén 1995b: 410), but domesticated plants may have only figured as luxury foods, whether in the form of bread or beer. The contrast between southern Sweden and Denmark appears to have been that in the former diets remained diverse from the Mesolithic into the Neolithic, with new foods having differential impacts according to geographical and social context (Lidén et al. 2004: 30).

Although stone artefacts demonstrated some continuity across the Mesolithic-Neolithic boundary, the mode of acquisition of lithic materials underwent a significant change. Minor flint extraction pits were replaced by deep shafts and galleries at Kvarnby-Södra Sallerup-Tullstop in Scania and Bjerre and Hov on Thy (Rudebeck 1998: 320; Strassburg 2000: 345). Available radiocarbon dates suggest that these developments must have taken place soon after 4000 bc. The significance of stone having been taken from the earth in a particular and labour-intensive way seems to have been recognized, and physically marked by the presence of a tiny area of cortex on the surface of polished flint axes (Rudebeck 1998: 325). Other monumental works may have been commenced soon after the start of the Neolithic. Uncertainties over the radiocarbon date from Sarnowo 8 place the chronological priority of Kujavian long barrows in question, especially given that the Sarnowo mound overlay a TRB occupation, which presumably dates no earlier than 4100 bc (Midgley 2005: 84). It may be that the Kujavian and Scandinavian long mounds are actually little earlier than the British examples (Madsen 1997: 77) (Fig. 3.8). The funerary structures associated with these barrows are similar to the earth graves without monumental architecture which are also a feature of the northern TRB (Madsen 1979: 308–9; Solberg 1989: 285). They generally contain a small number of burials, although it has been conjectured that these represent persons of genealogical significance rather than members of an elite (Tilley 1996: 113). Where timber chambers formed part of the mortuary area, these were often burned down before the construction of the mound. The burning of large fires and the destruction of timber structures by fire are recurrent themes in the Scandinavian TRB, and this extended to the elaborate practices involved in house abandonment (Madsen 1997: 79; Strassburg 2000: 375).

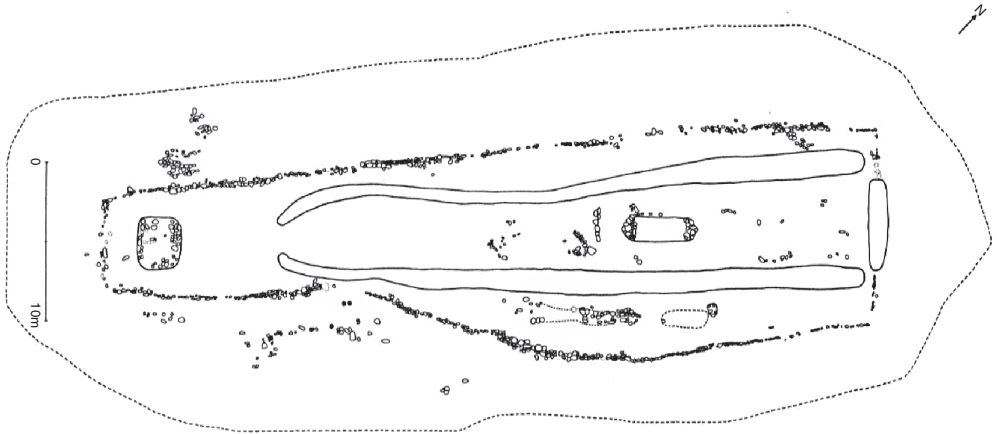


Fig. 3.8. Earthen long barrow at Storgård IV (after Price 2000)

It is clear that the earliest part of the Neolithic in Denmark and southern Sweden was succeeded by a mature period after 3500 BC: what Zvelebil and Rowley-Conwy (1984) refer to as the 'consolidation phase' (Koch 1998: 189). It is possible that at this time the initial and limited use of domesticated plants and animals had begun to have unforeseen consequences, in terms of the relations between people, animals and landscape (Johansson 2003: 50). Earthen long barrows were replaced by more substantial megalithic tombs, while the kinds of deposition that had been concentrated in bogs and wet places were now introduced to causewayed enclosures, another new kind of monument (Gebauer 1995: 108; Andersen 1997: 267; Koch 1998: 194; Holten 2000: 287). In Scandinavia, it seems that the implications of the transition to the Neolithic took some time to work through.

THE LOW COUNTRIES

At the western end of the North European Plain, the beginning of the Neolithic in Holland and Belgium has often been compared with that in Denmark and Sweden, although in some ways it has more in common with Schleswig-Holstein and the southern coast of the Baltic (Fig. 3.9). In these regions aspects of the Neolithic were slowly assimilated by indigenous people, eventually contributing to the formation of new *kinds* of Neolithic. These in turn would facilitate the Neolithization of other regions. As in northern Germany, the introduction of the LBK to the loess country of the Graetheide plateau and the Belgian Hesbaye from an earlier settlement cluster in Hessen was relatively swift, but appears to have been preceded by a period of contact with the local hunter-gatherer population. Early LBK sites in the Rhineland evidently had access to flint from the chalk country in the south of Limburg (Louwe Kooijmans 2007: 295). However, large expanses of the Belgian loess saw no Bandkeramik activity, and small areas



Fig. 3.9. Map of sites in the Netherlands mentioned in the text (drawn by Joanna Wright, after Louwe Kooijmans 2007)

of settlement in Overhespen and Hainault were apparently short-lived (Louwe Kooijmans 2011: 121). The subsequent development of Neolithic societies in the areas beyond the loess was subtly different from that in Denmark and southern Sweden. Louwe Kooijmans (1998: 408) draws attention to the contrast between the fertile but thickly wooded loess of the Limburg and the more sparsely vegetated coversands immediately to the north. Further north again lay the wetlands of the Rhine Delta, with coastal marine sediments and sphagnum bogs, and these three landscape zones had rather different histories during the Neolithic. The coversands and the delta were both more ecologically diverse than the loess, and this would have rendered them more attractive to hunting, fishing and gathering groups (Louwe Kooijmans 2007: 287).

The late Mesolithic groups on the sands, who existed in proximity to the LBK for some hundreds of years, appear to have lived in small, highly mobile groups. Their occupation sites appear to have been temporary, with repeated occupations at particular locations, often positioned within easy reach of the wetlands. These are characterized by stone tool assemblages indicative of a mixture of activities, from hide-scraping to tool-making (Verhart 2000: 228). However, there are indications that some places were used for more specialized purposes, as with

the numerous hearth-pits (presumably used for seasonal food-processing) at Marienberg, or the animal-butchery site at Jardinga (Louwe Kooijmans 2007: 292). In the delta, rich information about Mesolithic activity has come from the two Hardinxveld-Giessendam sites immediately to the east of Dordrecht, Polderweg and De Bruin. These were apparently seasonal sites of group aggregation, repeatedly occupied in the winter over periods of many centuries. The presence of the burials of men, women, children, and dogs indicates that entire communities may have been present for part of the year (Louwe Kooijmans 2001a: 421). The Hardinxveld sites were located on dune-tops, with attendant middens on the dune flanks, which have provided well-preserved evidence for subsistence activities, including fishing for pike, trapping beaver and otter, wildfowling, hunting of wild boar, and collecting nuts and berries (Louwe Kooijmans 2003: 612). The lithic resources represented at Hardinxveld demonstrate extensive external contacts, with quartzite from Wommersom, and flint from the Meuse gravels and south Limburg. Contacts to the south continued through the Hardinxveld sequence, and Neolithic elements sporadically appeared, beginning with a few LBK arrowheads.

However, throughout the LBK and the subsequent Rössen/Blicquy phase, the contact between farmers and hunters seems only gradually to have had an impact on the subsistence practices of the latter, escalating somewhat in the late Rössen and the Michelsberg period (Verhart and Wansleben 1997: 67). In the delta in particular the adoption of pottery, domesticated animals and cultivated plants by indigenous communities was spread over an appreciably longer period than in southern Scandinavia, with no clear horizon of change that can be identified as the 'start of the Neolithic'. Consequentially, there is some debate over whether the Swifterbant group should be designated as 'Mesolithic' or 'Neolithic'. This differs from the Scandinavian sequence in that the latter appears to have involved a positive resistance toward Neolithic innovations. In contrast, the Swifterbant communities selectively and progressively integrated aspects of the Neolithic, a situation that is arguably more comparable with developments on the Baltic coast of Germany (Louwe Kooijmans 2007: 292). Importantly, the incorporation of indigenous groups into the Neolithic world took place against the background of significant structural changes amongst the LBK communities and their successors. The Rössen/Blicquy period saw the contraction of settlement into a smaller number of sites, often with limited numbers of very large houses, while Michelsberg occupation was more widespread, but seems to have incorporated aspects of the mobility and economic practice of the Mesolithic (Raemaekers 1999: 181; Louwe Kooijmans 2005: 269). In other words, the overall process involved a degree of convergence between formally Mesolithic and Neolithic traditions (Verhart and Wansleben 1997: 67; Crombé and Vanmontfort 2007: 270).

As in northern Germany and Poland, the initial contact between LBK, Rössen and Blicquy groups on the one hand and Mesolithic communities on the other is manifested archaeologically by the distribution of certain artefact types beyond the loess country. LBK adzes are scattered over a wide area, and Rössen perforated stone wedges (*Breitkeile*) still more so, indicating an increase in the scale and intensity of exchange between Neolithic and Mesolithic groups over time (Verhart and Wansleben 1997: 69; Lanting and van Der Plicht 2000: 18–9; Louwe Kooijmans 2007: 296). Neolithic pottery is occasionally found in Mesolithic contexts, as at Vledderveen or the bone-tempered Blicquy sherds from

Hardinxveld-Giessendam De Bruin (Louwe Kooijmans 2001b: 145). However, its presence in a band of country running 30 km north of the loess is in most cases attributable to patterns of transhumance practiced by the agricultural groups. *Adzes* and *Breitkeile*, however, are more frequently recovered from Mesolithic sites, as at Sarching, Bad Dörenberg and Hüde I in north-west Germany (Verhart 2000: 35).

Pottery was first used by indigenous Mesolithic groups in the Low Countries in the early fourth millennium BC, concentrated in the wetland areas of the Rhine Delta and the IJsselmeer (Raemaekers 2003: 781; Louwe Kooijmans 2007: 296). Possibly the earliest documented ceramics were located at Hardinxveld-Giessendam Polderveg, dated to around 5000 BC (Louwe Kooijmans 2001b: 112). Some of the early ceramics in the area have pointed bases, and this has often resulted in a comparison with the Ertebølle tradition, although the Danish point-buttled pottery began three hundred years later than that in the Netherlands (de Roever 1979). It might be tempting on this basis to suppose that a complex, semi-sedentary late Mesolithic identical to that of southern Scandinavia had emerged in the rich environment of the Dutch wetlands. However, the similar morphology of the pottery is the only element that links the Dutch Swifterbant with Ertebølle, and it would certainly be inappropriate to identify the two too closely (Raemaekers 1997: 221). Swifterbant is best understood as a fully indigenous cultural tradition, which gradually developed by drawing inspiration from contacts with ceramic-using hunters to the east and the LBK, La Hoguette, Rössen, Blicquy, and Michelsberg groups to the south (Louwe Kooijmans 1998: 417). Swifterbant ceramics, in particular, appear to have borrowed elements from a variety of sources, although maintaining a limited range of vessel forms and an emphasis on S-shaped profiles throughout (Louwe-Kooijmans 2005: 265).

Early Swifterbant assemblages, dating to the period between 5000 and 4600 BC, were similar to those of the local Mesolithic, although with the addition of ceramics. Lithic artefacts included retouched blades, scrapers and trapezes (Raemaekers 1999: 108; Verhart 2000: 230). One significant change from traditional Mesolithic practice, however, is evident in the deliberate deposition of whole pottery vessels, red deer antlers, aurochs horns and lithics in wet places, from about 4800 BC onwards (Louwe Kooijmans 2011: 125). It is conceivable that this activity represented a reaction to contact with Neolithic forms of cultural display and competition. In Belgium, the site of Doel near Antwerp produced a faunal assemblage including wild pig, red deer and freshwater fish, together with early Swifterbant pottery (Crombé et al. 2002: 700). Similar artefacts were recovered from the north-west German site of Hüde 1, together with Rössen, Bischheim and Michelsberg material, which may have been stratigraphically mixed (Raemaekers 1999: 87). It is possible that by around 4600 BC small numbers of cattle and sheep had begun to be incorporated into a way of life that was still mobile and focused on hunting, fishing and gathering (Raemaekers 1999: 182). However, Louwe Kooijmans suggests that the faunal remains concerned may simply have represented joints of meat that had been carried in from areas to the south, probably Rössen communities in the Rhineland, from where perforated wedges were also being acquired (2011: 125). At around the same time, the traditional single graves of the Mesolithic, containing extended burials, began to be replaced by small cemeteries. Eventually, as at Ypenburg, crouched burials

following the Neolithic pattern would become the norm (Louwe Kooijmans 2011: 125). The relationship between the Swifterbant communities in the wetlands and the established Neolithic of the loess seems to have changed somewhat after 4300 BC, with the replacement of Rössen, Blicquy, and Bischheim by the Michelsberg/Spiere pattern, and the subsequent expansion of Neolithic settlement onto the coversands and the Belgian loess (Verhart 2000: 33; Crombé and Vanmontfort 2007: 277).

This period has been described as one of 'settlement infill'. Neolithic activity expanded into Limburg, the Meuse valley, the Münster basin, and the Nord Pas-de-Calais. However, this would appear not to have been a consequence of any sudden influx or rise in population, but a restructuring of activity and a change in the character of social organization. Most significantly, the emergent pattern was one that incorporated both Mesolithic and Neolithic populations. As Louwe Kooijmans argues:

Apparently both the Blicquy farmers and all final Mesolithic groups transformed into Michelsberg and changed to a new way of life. (2007: 297)

In the loess country that had previously been occupied by both LBK and Rössen/Blicquy groups, there was some continuity in subsistence practice, but it appears that residential stability declined, while large ditched enclosures began to be constructed from the start of the Michelsberg period. The change was thus one from discrete hamlets or villages to larger, more dispersed social units who may not all have been co-resident, and who were integrated at a higher level, through ceremonial centres that were not permanently occupied (Louwe Kooijmans 2007: 297). Louwe Kooijmans (2007: 307) compares this new settlement system with 'a less rigorous agricultural system' to the initial Neolithic of Britain and Scandinavia: a social and economic framework that could integrate indigenous Mesolithic communities into developing Neolithic regional systems.

In the Scheldt Basin and the Nord Pas-de-Calais the manifestation of this new pattern was the Spiere group (Vanmontfort, Casseyas, and Vermeersch 1997; Vanmontfort 2001) (Fig. 3.10). In cultural terms (and particularly in the case of ceramics) this combined elements drawn from the Chasséen of the Paris Basin and the initial Michelsberg assemblage. As we have seen in other parts of the continent, the expansion of Neolithic ways of life into new regions, and the assimilation of Mesolithic groups, involved a recombination or renegotiation of material culture. Most of the sites of the Spiere group, particularly in the Nord Pas-de-Calais, are small groups of pits, as at Cherissy, Isques, and Coquelles (Bostyn et al. 2011: 57). These appear to have been created throughout the four or five hundred years in which the assemblage was in use, but the ditched enclosures were apparently constructed during the earlier part of the sequence, between around 4300 and 4100 BC. One of the causewayed enclosures of the Spiere group, the Mont d'Hubert at Escalles, immediately west of Calais, is located on the Channel coast, facing Britain, yet centuries earlier than any British enclosure (Bostyn et al. 2011: 57).

On the sands of Belgium and Holland, activity in the Michelsberg phase seems to have taken the form of short-term occupations (Crombé, Sergeant, and Lombaert 2011: 106). The range of pottery vessels in use was limited, dominated by tulip beakers, and the lithic assemblage was broadly Mesolithic in character, with the

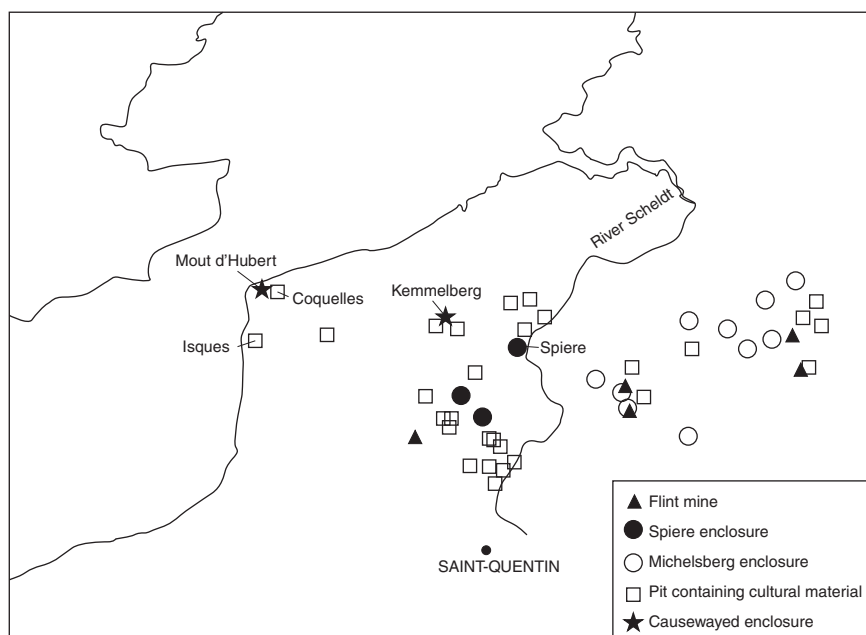


Fig. 3.10. Map of sites related to the Spiere group in the Scheldt Basin and the Pas-de-Calais (drawn by Joanna Wright, after Bostyn et al. 2011)

addition of leaf-shaped and triangular arrowheads (Louwe Koojmans 1976: 272; Verhart 2000: 230). This underlines the probability that this period saw the incorporation or Mesolithic bands into the Michelsberg social network, rather than a concerted Neolithic migration from the loess-country enclaves. In any case, it is clear that the differences between the existing Neolithic communities on the loess and the indigenous hunting and gathering groups were declining over time.

The changes that were taking place within long-established Neolithic communities are also demonstrated by a major transformation in the character of lithic procurement. The LBK population in the Dutch Limburg had acquired flint nodules from shallow quarries and exposures, and no more than exploratory testing of the material had taken place at the sites of extraction. The main working from raw material to flint tool took place within the settlements (de Grooth 1991: 179). But around 4000 BC, the Rijkholt-Sint Geertruid flint mine complex was established in Limburg, and from this time onwards blades and axe blanks were produced in the vicinity of the mines (de Grooth 1998: 72). Similarly, at Spiennes in Hainault, the extensive series of deep shaft mines have produced a series of radiocarbon dates which predominantly fall after 4000 BC (Collet, Vanmontfort, and Jadin 2011: 171). So this development did not take place at the start of the Michelsberg cultural phase, but little earlier than the first digging of mine shafts in Scandinavia (see above) and in southern Britain. Amongst other things, this change in the character of flintworking reflected the decline of the settlement as the principal focus of craft activities, as a more mobile form of Neolithic life began to develop in some parts of north-west Europe.

It was during the Michelsberg period that the type-sites of the Swifterbant complex were occupied. Between 4360 and 3970 BC, the levees on a series of creeks bordering on the IJsselmeer provided the location for a series of habitations, which may have been seasonally occupied or perhaps more permanent. These are represented by multiple renewed hearths, which may mark the sites of huts (van der Waals and Waterbolk 1976). On the dunes between these creeks there had been activity during the Mesolithic, and it was presumably the same groups of people who were now developing broad-spectrum economic practices which included the keeping of some domesticated animals (Raemaekers 1999: 25). The dozen or so occupation sites at Swifterbant produced evidence for the hunting of wild pig, wildfowl, and fur-bearing animals, while cattle, pigs, and a few sheep were herded. Hazelnuts, rosehips, crab apples, and blackberries had been harvested (Clason and Brinkhuizen 1978: 75; Bakels and Zeiler 2005: 316). Formal burials were present at a number of the sites (Constandse-Westermann and Meiklejohn 1979). Slightly later, around 4000 BC, a comparable series of occupations can be identified at Hazendonk in the Rhine Delta. Here again, a wide range of wild and domesticated resources were in use, although there was a principal focus on the hunting and trapping of beaver, red deer, roe deer, wild boar, and otter. The ceramics at Hazendonk were more closely related to Michelsberg and Spiere than those at Swifterbant, while the lithic assemblage lacked some of the more obviously 'Mesolithic' elements present at the earlier sites, such as trapezes (Raemaekers 1999: 111). The Hazendonk sites have been described as a final, southern manifestation of the Swifterbant complex, more closely connected to the fully Neolithic Michelsberg and Spiere groups (Louwe Kooijmans 2011: 126). By this time the wetland sites may have been sporadically used at various time during the year, and linked to more permanent occupations elsewhere (Louwe Kooijmans 2007: 299). Some Swifterbant sites were clearly specialized task-locations, as in the case of Bergschenhoek, which had evidence for seasonal wildfowling and fish-trapping (Louwe-Kooijmans 2005: 264). In a swampy landscape dissected by creeks, the locations of Swifterbant occupation sites were better suited to hunting and gathering than horticulture, yet cereal grains are often present after 4200 BC, and carbonized chaff fragments were recovered from site S3. In some cases, these may not have been grown locally, but introduced through exchange, although there are hints of cultivation from pollen analysis, and more recently possible traces of a short-lived episode of hoe cultivation have been identified at Swifterbant S4 (Louwe-Kooijmans 2005: 264; Raemaekers 2007).

Raemaekers (1997: 230) points out that the Swifterbant phenomenon directly challenges Zvevilev and Rowley-Conwy's argument that hunter-gatherer and agricultural ways of life cannot be combined, and that scheduling problems will eventually result in a shift to a complete reliance on domesticated resources. Yet the Swifterbant groups appear to have successfully integrated hunting, fishing, wildfowling, herding and the gathering of wild plants into a stable system over a period of tens of generations. It might be argued that Swifterbant represented a specialized adaptation to a wetland environment, unlikely to be replicated elsewhere in Europe, but there are indications that this was not the case. The site Schokland P14, for instance, was located on the boulder clay rather than in the creeks and marshes, and demonstrated the same combination of hunting, collecting and herding (Raemaekers 1999: 182). The implication is that the selective

integration of elements of the hunter-gatherer and agro-pastoral economic systems could potentially have been pursued elsewhere in Neolithic Europe, particularly in cases where indigenous communities were in protracted contact with farming groups. On the other hand, Raemaekers (2003: 786) points out that by the succeeding Vlaardingen phase (c.3400 BC), fully agricultural settlements had been established on the coastal dunes. If similar sites had existed in the Michelsberg period, they might have been lost to coastal erosion, and could have been complementary to the wetland sites. However, the recently discovered coastal settlement of Schipluiden, associated with Hazendonk ceramics and dated to 3600–3400 BC, actually reveals a broad-spectrum economy similar to the wetland sites: cattle and pig, red deer and boar, extensive wildfowling and freshwater fishing, and cereals harvested alongside fruits, nuts, and tubers (Louwe Kooijmans 2007: 299–304). Schipluiden was located on the crest of a low dune, and was composed of a series of clusters of postholes which seem to represent four or five separate ‘yards’, each containing lightly framed structures that had been repeatedly rebuilt (Louwe Kooijmans 2011: 128) (Fig. 3.11). To the north of the dwelling areas were numerous well-pits cut through the surface of the dune, while a series of hearth-pits demonstrated long-term continuity with Mesolithic practices. Louwe Kooijmans argues that the series of timber fences on the southern side of the settlement, which had been repeatedly renewed, demonstrate the emergence of an organization of labour at the community rather than the level, which is the hallmark of the Michelsberg period and is also evident in enclosure-building (2011: 131).

In southern Scandinavia, hunters and gatherers were in contact with agricultural societies over an extended period, and took up the manufacture of pottery, but resisted any serious involvement with domesticated species until a major social and cultural reordering took place at the start of the Neolithic. In the Low Countries, pottery, cattle, pigs, and perhaps the sporadic use of cereals were added sequentially to an established but changing way of life. Swifterbant arguably represented a form of society that was marginally more open to external innovations than Ertebølle. The implication is perhaps that Swifterbant communities more readily underwent structural changes than Scandinavian ones resisted, facilitating cultivation and herding on a small scale. Verhart and Wansleben (1997: 65) argue that the first contact with LBK and Rössen settlers will have had a transformative impact on local Mesolithic groups. Objects that were at once exotic and yet comprehensible within the local system of value and meaning will have been acquired through exchange transactions: principally axes and adzes. The circulation of these objects amongst Mesolithic people will have fuelled social competition, and the quest for objects that were social or symbolic in their significance will have promoted a change to a more productive economic system. In this explanation, it is the presence of the incoming Neolithic groups and their exotic material goods that stimulates the need for more economic production, overcoming the egalitarian ethos of hunter-gatherer society. On the other hand, Raemaekers (1999: 190) stresses the conservatism of Swifterbant society, and the long period between the first acquisition of domesticated animals and the eventual abandonment of hunting and gathering. The very lengthy ‘substitution phase’ in the Low Countries was the outcome not of competition, but of a desire for social consensus within a ‘primitive communist’ order. These two interpretations are not



Fig. 3.11. The Settlement of Schipluiden (from Louwe Kooijmans 2011, with the kind permission of Leendert Louwe Kooijmans)

necessarily contradictory, for it is arguable that small-scale struggles to achieve authority and prestige were nurtured within a broadly egalitarian society, and that the structural changes involved in the adoption of a fully agricultural way of life were more gradual. Finally, it is important to stress that the slow pace of change in the Delta contrasts with the situation on the sands and in Belgium, where the

onset of the Neolithic following the emergence of the Michelsberg was much faster, and was comparable with both Scandinavia and Britain.

NORTH-WEST FRANCE: THE EMERGENCE OF MONUMENTAL BURIAL

While the sequence of change from Mesolithic to Neolithic in north-west France demonstrates some similarities with those in Scandinavia and the Low Countries, it also possesses a number of distinctive features. The most striking of these are the interaction of two entirely separate Neolithic traditions and the early emergence of both substantial monuments and spectacular funerary practices. The latter represents a new element, not found in the Neolithic societies of south-east and central Europe, and for this reason it has often been identified as something extraneous, introduced to the early agricultural communities of Atlantic Europe by 'megalithic missionaries' or Mediterranean traders (Childe 1957: 219). Following the impact of radiocarbon calibration, which demonstrated that the monumental architecture of western Europe was earlier in date than that of the east Mediterranean, it was Colin Renfrew (1973a: 160) who first identified megalithic tombs as a product of the internal dynamics of Neolithic groups. While his emphasis on population pressure and territoriality is one that we might now wish to qualify, one important point that flows from this is a recognition that the European Neolithic was not defined by a fixed set of traits, but represented a process of continuous change and transformation, which might throw up novel innovations in specific contexts and circumstances.

The rejection of migrationist accounts of the origins of megalithic burial also sometimes resulted in a renewed emphasis on continuity from Mesolithic to Neolithic. Chapman (1981: 74) argued that Mesolithic cemeteries in Portugal, Brittany and Denmark could be connected with the efforts of corporate descent groups to secure control over limited natural resources by placing their ancestors in prominent locations. The later development of megalithic tombs could then be seen as a continuation of the tradition of burial in formal disposal areas. The sites of Tévéc and Hœdic, in southern Brittany, provided prime examples of cemeteries created by Mesolithic communities engaged in the intensive exploitation of marine resources. Moreover, the presence of stone cists and capstones, small standing stones, and red deer antler as grave furniture amongst these sites suggested that they might represent precursors of Neolithic mortuary monuments (Renfrew 1973a: 158–9; Boujot and Cassen 1993: 479). Tévéc and Hœdic were shell midden sites on two islands in the Gulf of Morbihan, and were excavated by Péquart and Péquart in the inter-war years (1954). They have been extensively cited as examples of cultural elaboration in the Mesolithic, and date principally to the period between 5500 and 4800 BC (Bender 1985: 22–3). They form part of a larger group of Mesolithic midden sites in coastal Brittany, including La Torche, Anse du Sud, Beg-er-Vil, and Point St Gildas (Schulting 1996: 336; Scarre 2002a: 29; Dupont et al. 2009: 94).

At Tévéc and Hœdic, it is possible that the shell middens had accumulated around and over the burials, as at the Scandinavian middens (Scarre 2011: 61).

The sites had been used by populations who acquired a very wide variety of foods from the coastal zone and inland waters: fish, whales, seals, shellfish, and birds (Schulting 1996: 337). These were complemented by bones of red deer, boar, birds, and fur-bearing mammals, although the overall contribution of terrestrial resources to diet appears to have been small (Dupont et al. 2009: 98). Indeed, many of the animal bones from the sites may not have been food remains at all, having been brought to the sites to be worked into tools, ornaments and dress fittings. Stable isotope analysis on human bones from both sites confirms that 60 to 80 per cent of the protein consumed at Tévéc and Höedic was of marine origin (Schulting 1998: 211). The carbon-13 values at Tévéc were consistently around 1 per cent lower than at Höedic, and this implies that the two cemeteries were used by separate social groups with marginally different diets, rather than a single regional population (Dupont et al. 2009: 97). However, women at both sites had often consumed rather less marine protein than men over their lifetimes. Two points follow from this. Firstly, these may have been patrilocal communities, into which women may have been marrying from elsewhere. Secondly, there must have been other Breton Mesolithic communities, presumably located inland, whose diets were much less focused on marine foods, and may indeed have been largely terrestrial. Dupont et al. (2009: 105) argue that all of the resources consumed at Tévéc and Höedic would have been accessible in their immediate vicinity, while many of them would have been available year-round. At Tévéc there were seasonal indicators of a spring, autumn, and winter presence, and this may suggest that the Morbihan middens were permanently occupied.

If the funerary activity at Tévéc and Höedic preceded the build-up of midden material, it is conceivable that as in Scandinavia, the dead presided over and gave sanction for the various acts and transactions that took place on each site. At both middens, the cooking and consumption of food and the processing of animal remains took place in close proximity to the graves, while at Tévéc there were large 'feasting hearths', hinting that collective consumption was undertaken in a place of ancestral presence (Kirk 1991: 113). The mortuary activity could be seen as a way of establishing or founding both a particular kind of place, and perhaps also the more structured community that came to be associated with it. Neither cemetery is especially large (13 burials at Höedic, 23 at Tévéc), although some of the graves contained multiple bodies, and the apparent disturbance of some skeletons suggests sequential inhumation carried out over a period of time, with particular persons being singled out by the presence of antler structures, bone pins, and flint blades (Schulting 1996: 337). The variation in the number and complexity of grave-goods perhaps indicates that some of the dead were more significant and more venerated than others, but rather than a straightforward reflection of rank these may have been persons who achieved distinction or prestige in life, or who were of particular genealogical significance to the surviving community.

A striking aspect of the Breton shell middens is the apparent presence of minimal quantities of domesticated animal bone. Small cattle may have been represented at Höedic and Beg an Dorchenn, and a single sheep tooth (now lost) was reported from Tévéc (Schulting 1996: 337, but see reservations voiced by Tresset and Vigne 2007: 200). To this can be added a pair of partially defleshed cattle deposited in a pit beneath the long mound of Er Grah near Locmariaquer, and dated at around 5000 BC, earlier than any local Neolithic presence (Vigne and Tresset 2006: 256). None of

these instances should be taken to indicate that indigenous domestication had taken place in Brittany. Indeed, Breton Mesolithic groups seem to have been even more resistant to the adoption of innovations than those of either Scandinavia or the Netherlands, since they neither made nor used pottery vessels. It is probable that individual animals had been acquired through contacts with Neolithic communities further to the east or (more probably) the south, but not with a view to creating breeding herds. If anything, it is likely that such animals are overrepresented at these 'special' sites, for their exotic character would have made them valuable as sacrifices or as feasting food, either of which would potentially have enhanced the prestige of anyone who had been able to acquire them.

As in other areas of Atlantic Europe, the Late Mesolithic communities of the Armorican peninsula appear to have used stylistic variation in artefacts as a means of signifying or constructing localized identities. Monts d'Arrée, Beg an Dorchenn, and Morbihan groups have been defined on the basis of arrowhead morphology, and this evidence is complemented by the presence of pins fashioned from boar and deer bone respectively in the cemeteries of Tévéc and Höedic (Cassen 1993a: 120; Schulting 1996: 348; Arias 1999: 420). Moreover, mutually exclusive sources of lithic raw materials appear to have been employed by distinct regional groups, a situation that contrasts with contemporary developments in southern Scandinavia (Marchand 2007: 227). Furthermore, although beach flint was acquired by inland groups, materials such as microquartzite and phthanite were not used by the coastal communities (Scarre 2011: 44). This collective differentiation suggests that communities were seeking to establish social boundaries, and by this means define who had access to food, exchange items, marriage partners, and support in times of dispute or conflict. It is therefore important to view the rather specialized dependence on marine resources on the part of the groups using the coastal middens in a broader context (Dupont et al. 2009: 106). Preservational conditions dictate that we know far more about the subsistence activities of the shoreline-dwellers, but surface survey has demonstrated that there are numerous lithic concentrations further inland (Kirk 1991: 116–17; Scarre 2011: 43). So intensive marine exploitation may not have been a universal adaptation to developed postglacial conditions so much as one facet of a densely packed Late Mesolithic landscape. The users of the middens rarely hunted for land mammals because these had become the prerogative of other social groups. If this were so, it might indicate that the Breton Late Mesolithic had diverged from the widespread hunter-gatherer pattern of generalized reciprocity and mutual aid, toward an increasingly proprietorial relationship with land and animals. Without having adopted any domesticated plants or animals, they had perhaps begun to develop divided access to both other species and special places.

There is significant evidence that Mesolithic people in Brittany and Normandy maintained direct or indirect relations with LBK communities and their successors, the Villeneuve-Saint-Germain complex (Fig. 3.12). Shoe-last adzes, stone bracelets and La Hogue style pottery are all known in the region, although the latter may have been introduced through contacts with hunting and herding groups more intimately associated with the agricultural settlements (Patton 1994: 286). In return, unworked schist and amphibolite for axes and bracelets moved eastwards, while the serpentine for a bracelet found at the Villeneuve-Saint-Germain settlement of La Haute Mée in the east of Brittany probably came

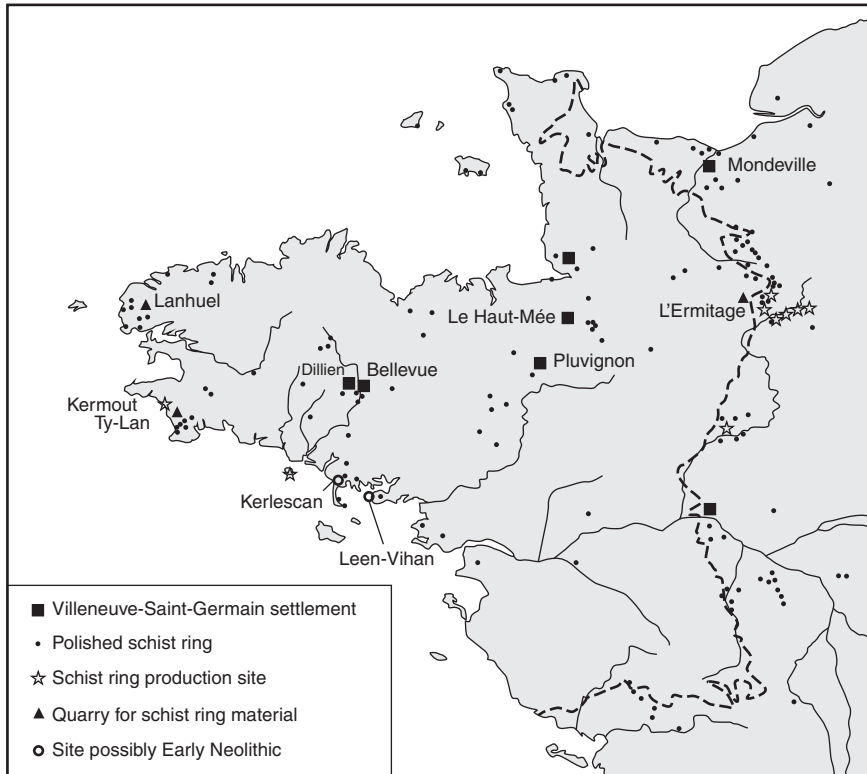


Fig. 3.12. Villeneuve-Saint-Germain sites in north-west France (drawn by Joanna Wright, after Pailler et al. 2008)

from Ile de Groix, in the Gulf of Morbihan (Scarre 2002a: 35, 2002b: 401). It is likely that the relationships between Mesolithic and Neolithic groups in north-west France were messy and complex. Villeneuve-Saint-Germain settlements were established, spread thinly over eastern and central Brittany from around 4900 BC onwards (Fig. 3.13). Cassen and colleagues (2011: 226) argue that the efflorescence of standing stones, funerary mounds and fine artefacts from c.4700 BC, particularly in the Morbihan area, represented an 'accumulation of concepts' on the part of indigenous hunter-gatherers confronted by the intrusive agricultural complex. The highly asymmetrical social formation that developed appropriated and elaborated particularly those aspects of Neolithic culture that they had previously acquired through long-distance contact, such as stone axes and rings, and which might have been implicated in the initiation of unequal social relations. Indeed, it can even be argued that some of the large standing stones of the mid-fifth millennium BC represented massive stone axes, their blades cutting into the earth (Tilley 2004: 33).

Furthermore, there are relatively late radiocarbon dates from some of the offshore midden sites, while the mutually exclusive distribution of Late Mesolithic and Early Neolithic sites in north Finistère have been cited as evidence that there

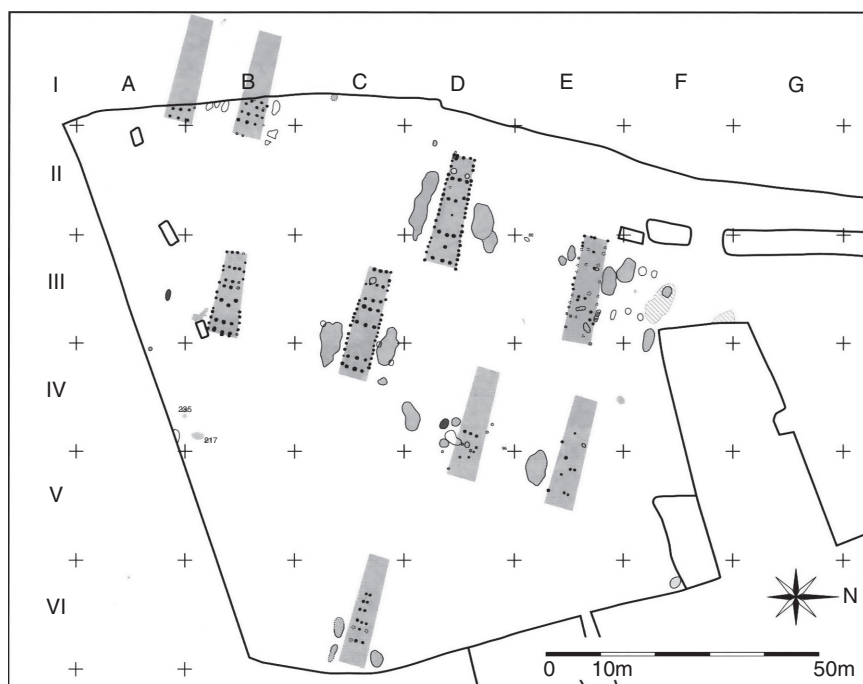


Fig. 3.13. Plan of the Villeneuve-Saint-Germain settlement of Vignely 'La Porte aux Bergers' (from Bedault 2009, with permission)

may have been a degree of chronological overlap between the two (Scarre 2002a: 29, 36). So while some indigenous groups may have adopted aspects of a Neolithic way of life from a relatively early date, and others were absorbed into Neolithic enclaves, others still may have held on to their traditional practices for a short while, perhaps abandoning Téviec and Hœdic in the first quarter of the fifth millennium BC. There is, none the less, considerable evidence that certain locations that had gathered significance during the Mesolithic retained their importance in the Neolithic. As we have seen, the Er Grah long mound was constructed over a place where hearths had been used and the remains of two cattle had been buried in the Mesolithic. At Dissignac (Loire Atlantique), a twin-chambered passage grave was constructed in another area that had seen Mesolithic activity (Fig. 3.14). Both a microlithic flint assemblage and carbonized cereals were present, although the mixed character of the pre-cairn soil means that their mutual association cannot be assumed (Kinnes 1984: 367; Scarre 2002a: 27). Furthermore, at Lannec er Gadouer in the Morbihan Mesolithic pits were identified beneath a *tertre tumulaire*, or long mound (Cassen, Boujot, and Vaquero 2000: 49). The continued recognition, or enhancement, of places that had been frequented and in some cases used for elaborate depositional practices during the Mesolithic indicates some degree of stability in cultural tradition across the transition.

This underscores the point that has been made in different ways by Kinnes (1982: 29) and Sherratt (1990: 148), that the emergence of monumental funerary



Fig. 3.14. The double passage grave at Dissignac, Loire-Atlantique (photo: author)

structures in Armorica needs to be understood in terms of the interaction between the central European (post-*Bandkeramik*) and west Mediterranean (Epicardial) Neolithic traditions, and also the native Mesolithic groups. While archaeologists have often sought to identify one of these different groupings as the ultimate source of mortuary monumentality, it may be more fruitful to consider the possibility that something new can be created in the encounter between different cultural entities (Bhabha 1994: 114). Long mounds and megalithic tombs in Armorica combined aspects of architectural organization and post-mortem body treatment which, perhaps quite intentionally, referred to diverse histories. *Linearbandkeramik* communities and their successors practiced a relatively restricted form of burial, in which crouched inhumations and some cremations, often with grave goods, were interred singly in cemeteries or in close association with abandoned houses (Hofmann 2005). By contrast, Mesolithic practices in western Europe were rather more diverse, including extended inhumations in graves, cist burials, exposure, disarticulation, collective burial, sequential burial, and cave burial (Cauwe 2001: 158; Scarre 2002a: 47; Conneller 2008). It is perhaps plausible that these established customs had a role to play in the creation of the equally diverse management of the dead found in the Neolithic monuments in the mid-fifth millennium BC and beyond.

We can pursue this point further by considering each of the main cultural traditions present in Atlantic France during the fifth millennium. In Western France, Cardial and Epicardial pottery, associated with the bones of domesticated cattle, sheep and pig and stone arrowheads of types shared by Mesolithic groups are found as far north as the Loire (Scarre 1992: 124; Arias 1999: 424). As in the western Mediterranean, it is possible that this represented a diasporic combination of indigenous adoption and the movement of people between communities (see Chapter Two). Certainly, this 'Mediterranean' Neolithic in western France had a somewhat diffuse and poorly defined character, and lacked

distinctive markers of identity such as the Danubian longhouse (Marchand 2007: 235; Scarre 2011: 54). Elaborate burial practices are known from an early date in this area, as with the stone cists containing multiple inhumations at La Goumoisière, and the cists with single burials inside small enclosures at La Jardelle, both in Poitou-Charentes. These sites are broadly dated to the mid-fifth millennium BC, although the burial at Germignac in Poitou-Charentes may be earlier (Scarre et al. 2003: 76; Scarre 2007: 249, 2011: 181). It is therefore unclear whether these practices emerged independently alongside the initial appearance of ceramics and domesticates in Western France, or whether they were inspired by developments in the Paris Basin and Armorica (Scarre 2007: 257).

In the east, the furthest extension of the central European *Linearbandkeramik* was manifested as the Rubané Récent of the Paris Basin (RRBP), dating to the end of the sixth millennium BC. Further west, into Normandy, the Plain of Caen, the Channel Islands and down to the Loire, a broadly similar pattern was represented by the Villeneuve-Saint-Germain group, between 4900 and 4700 BC. Recent discoveries of surface scatters at Dillien à Cléguérec and Bellevue à Neulliac have extended the distribution into northern Morbihan (Dupont et al. 2009: 107). The VSG was distinguished by longhouse settlements, pottery with bone tempering, and bracelets made of schist and other stones (Ilett 1983: 15). There is some debate as to whether it should be seen as a continuation of the Rubané Récent, in which minor cultural changes took place but the form of subsistence agriculture was consistent, or whether it represented a parallel and overlapping development (Patton 1994: 280; Bakels 1999: 73; Scarre 2002b: 400). Scarre (2002b: 402) presents the VSG as small groups of pioneer agriculturalists, spreading by leapfrog colonization, and presumably combining collective movement with the recruitment of local personnel. However, while some sites like Pluvignon near Rennes have as many as ten houses, the majority in Brittany and Normandy have only one or two. This tells us both that these settlements may not have been very long-lived, lacking the sequences of rebuilding characteristic of LBK sites, and also that they were very small communities. It seems improbable that single extended families would have elected to venture alone into territory occupied by hostile hunter-gatherers. But the transfer of schist for stone rings from Finistère eastward to the Paris Basin, and the presence of polished rings throughout Brittany clearly demonstrates that there was intensive interaction between VSG groups and indigenous Breton communities (Scarre 2011: 52). We can only conclude that the dealings between the scattered longhouse societies and hunting bands in early fifth millennium Brittany were relatively cordial.

This kind of coexistence might have prepared the ground for a fusion of Mesolithic and Neolithic cultural traditions in the period after 4700 BC, characterized by the Cerny assemblage and its Breton equivalent, the Castelletic (Scarre 2003: 45). This is the horizon that Cassen and colleagues identify with the emergence of powerful indigenous elites in the Morbihan. In this period, cereal cultivation seems to have declined in importance in northern France, while domesticated animals and particularly cattle apparently became a central pre-occupation for Neolithic societies (Augereau, Leroyer, and Tresset 1993; Tresset and Vigne 2007: 202). At the Cerny ditched enclosures of Balloy, Barbuise-Courtarrant, and Châtenay, very large assemblages of cattle bones have been recovered (Tresset 1996). This harmonizes with the picture that we have seen

elsewhere in northern Europe, in which the incorporation of indigenous hunter-gatherer populations into Neolithic regional systems was most likely to occur where a subsistence economy based upon cereal cultivation was superseded by a wealth economy focused on the accumulation of cattle.

Some of the earliest monumental structures used for formal burial in Western Europe are attributable to the Cerny phase. These are the Passy-type long enclosures of the Paris Basin and Normandy, each up to 300 metres long, and generally occurring in clusters of up to thirty (Kirk 1998: 102; Scarre 2003: 44). The type-site, at Passy-sur-Yonne, consists of a series of structures that were repeatedly reconstructed over a period of several generations: small, low, oval mounds were replaced by longer trapezoidal mounds, which were elongated and finally had circular enclosures superimposed upon them (Kirk 1998: 113). Extended burials with their heads to the east were deposited with each constructional episode, sometimes added to the existing deep pit-graves, which were positioned along the axis of the monument (Midgley 2005: 104). Most of the bodies were unaccompanied, but some like the woman in Grave 4 were richly furnished with objects of antler, bone, flint and pottery vessels (Kinnes 1999: 149). More significant still is the group of enclosures at Balloy. Here, several of the long enclosures dated to around 4500 bc were positioned immediately over Villeneuve-Saint-Germain longhouses, which were up to two hundred years older (Mordant and Chambon 1996: 401; Midgley 2005: 106). Some of the graves may have been inserted into the remains of the houses even before the monuments began to be constructed. This brings to mind Richard Bradley's argument that continental long barrows may have originated as representations of collapsed and derelict long houses of Danubian tradition, which would have amounted to long, low mounds of daub and other debris (1996: 248). These 'houses of memory' came into being on LBK settlements when buildings were abandoned and allowed to fall into ruin as new dwellings replaced them, and in some cases they had graves cut into them. At Balloy the relationship between longhouse and long mound/enclosure was a direct one, although at Passy, both Villeneuve-Saint-Germain and Cerny settlements were located nearby (Midgley 2005: 86) (Fig. 3.15). A further six cemeteries of long enclosures are known from the limestone plateau country of Normandy, the best known of which is at Rots. These lack the long mounds and other structural elaborations of the Passy group, but have the same axially set pit graves, some of them lined with stone slabs. The burials were again inhumations, with a similar range of grave goods (Kinnes 1999: 153).

Archaeologists have long noted the formal similarities between longhouses on the one hand and long-barrows and cairns on the other (e.g. Hodder 1984: 55). Furthermore, although there is a degree of overlap both spatially or temporally, there is a tendency for *either* longhouses *or* long mounds to have been constructed by a particular society at any given time. Thus, as we have seen, at Balloy the barrows replaced the houses. One way of rationalizing this has been to say that 'houses of the dead' replaced the 'houses of the living' as the spatial foci of Neolithic societies. Yet these new centres were not concerned with everyday life, but with the sphere of death, ritual and the ancestors (Hodder 1984: 64). However, one alternative is to point to the range of functions that the house had accumulated in the historical process that had taken the Neolithic way of life out of the Balkans and ultimately into Atlantic Europe. We have argued that the formation

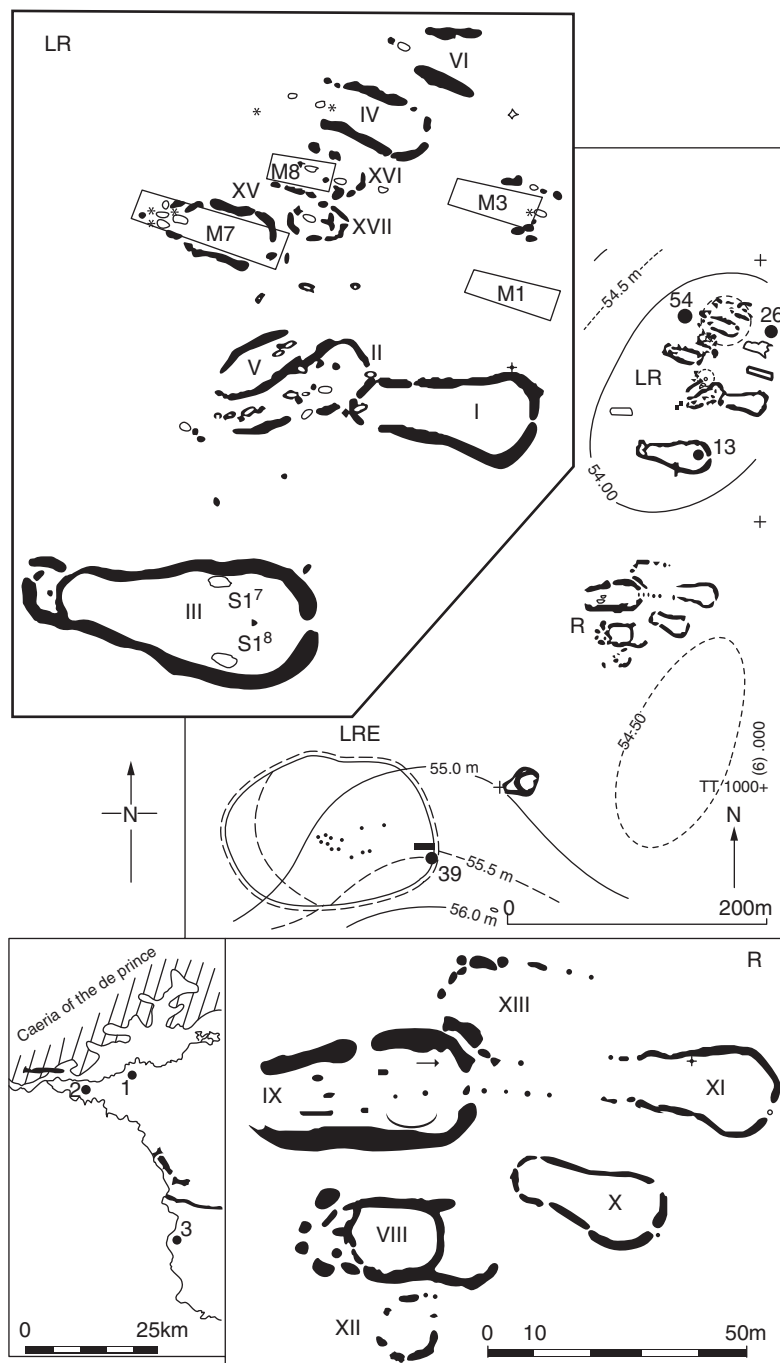


Fig. 3.15. The VSG settlement and Cerny long enclosures at Balloy, Les Réaudins (from Mordant and Chambon 1996, with the permission of the Société Préhistorique Française)

of the LBK in the Hungarian basin involved a change in the social role of the house. For although in the Balkan Neolithic the house had been closely associated with the continuity of the domestic group, the elaboration and increasing massiveness of the LBK house was connected with its growing role in the recruitment and assimilation of extraneous personnel, notably members of hunter-gatherer communities. In the process, the house took on the connotations of the socialization, integration, reproduction and collective history of a more extended community. This is not to claim that the Neolithic house was a manifestation of a trans-historic symbolic structure connecting the domestic realm with the process of domestication (e.g. Hodder 1990: 280). On the contrary, it is to argue that the house acquired a series of social and symbolic functions in the particular historic context of the European Neolithic, and the process through which its composition was repeatedly transformed. From this point of view it is possible to argue that long mounds and cairns were not houses built *for* the dead, but simply houses from which the role of dwelling structure had been withdrawn. What they retained was the task of constituting a durable focus for a community, enhanced by the physical presence of one or more founding ancestors who served to emphasize continuity with the collective past.

The Passy and Rots structures therefore combined a monumental presence in the contemporary landscape with an evocation of the ancestral past. What is striking is that this past may not have been exclusively Neolithic in character, and the burials in particular seem to relate to Mesolithic antecedents. Not only body posture and slab-lined graves, but the presence of transverse arrowheads, boar's tusks, seashells and shell pendants, antlers and scatterings of ochre evoke either the activity of hunting or Mesolithic cultural traditions (Midgley 2005: 125). This is distinctly at odds with the evidence for a subsistence economy dominated by cattle (Tresset and Vigne 2007: 202). The symbolism of Mesolithic bodies in Neolithic houses suggests the incorporation of Mesolithic people into the Neolithic world, itself understood as a great house. If from the LBK to Villeneuve-Saint-Germain the expansion of that world had been achieved by drawing hunting people into the physical space of the house, the same relationship was now being expressed in a form that was at once symbolic and yet massively physical. The groups of mounds and enclosures reflected the organization of LBK and post-*Bandkeramik* settlements, probably indicating that the relationships that formerly Mesolithic and Neolithic groups were entering into were expressed in terms of kinship, descent, and lineage.

In Brittany, these developments were matched by the construction of long, low mounds known as *tertre tumulaires*, which are particularly concentrated in the Morbihan (Fig. 3.16). These may have been broadly contemporary with the Passy enclosures. Some have a trapezoidal form, again echoing the VSG longhouse. As mentioned above, the example at Lannec er Gadouer sealed both a number of Mesolithic pits or graves and a series of small standing stones beneath a mound that was constructed in the mid-fifth millennium BC (Cassen, Boujot, and Vaquero 2000: 49), recalling the incorporation of Mesolithic elements observed at Passy and Rots. The *tertres* arguably grade into the more massive Carnac mounds, which are of broadly similar date. These were conspicuous not only in their size, but in the massive expenditure of effort involved in transporting marine sediment from some distance to spread over layers of stone (Cassen et al. 2011:

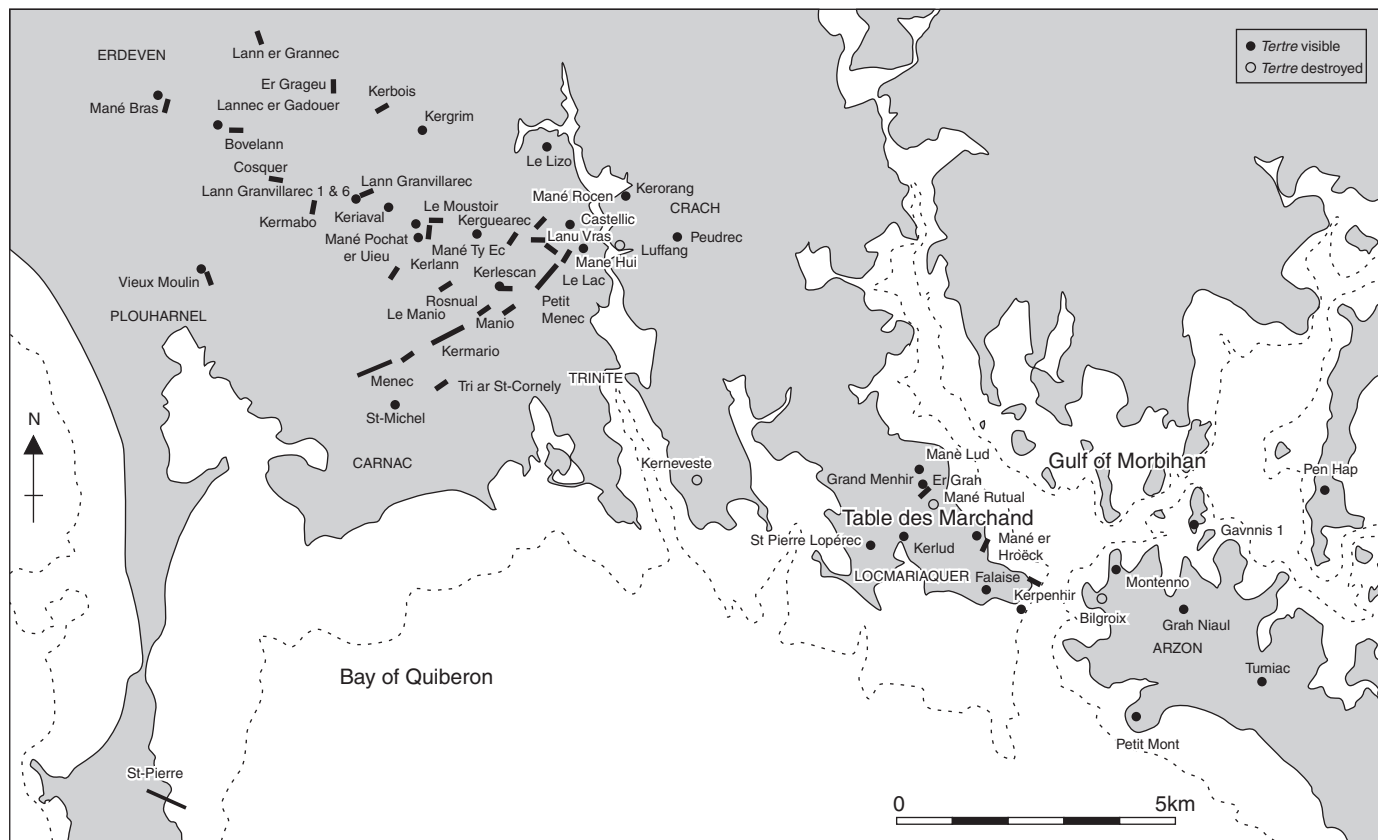


Fig. 3.16. Neolithic monuments in the Morbihan, southern Brittany (drawn by Joanna Wright, after Cassen 2010)



Fig. 3.17. The Carnac mound of St Michel, Carnac, Morbihan (photo: author)

229). Like the Passy monuments in Normandy the Carnac mounds contained closed cists with one or two adult burials inside, although on occasion these were cremated (Boujot and Cassen 1992: 202–3). The excavation of the mound at Saint-Michel revealed an extended sequence in which a series of small cists clustered around two larger chambers, and all were enclosed within a stone cairn before the tumulus was raised (Scarre 2011: 105) (Fig. 3.17). Although these cists had entrances, there was no way of entering them once the mounds had been built, so the deposition of human remains probably represented a single event, as opposed to the protracted activities documented in the passage graves (Cassen et al. 2011: 231). The incorporation of cists into the long mounds of the more westerly areas invites comparison with Téviec and Hôedic on the one hand, and the broadly contemporary funerary structures of the Epicardial on the other. By contrast, the artefactual associations of both *tertre tumulaires* and Carnac mounds were firmly in the post-*Bandkeramik* tradition: stone rings, schist bracelets, Castelic pottery, Iberian variscite beads and axes of fibrolite, and Alpine jade (Boujot and Cassen 1993: 483). None the less, the axes and stone rings were precisely the items that Late Mesolithic groups in Brittany had been anxious to acquire from VSG settlers, and may have been emblematic of hunter-farmer interactions. The jade axes are notable for having been extensively reworked and thinned, and sometimes perforated (perhaps for suspension), rendering them more exclusively as objects of prestige, ornament and display (Pétrequin et al. 1997: 139).

In the Morbihan, Carnac mounds have sometimes had passage graves inserted into them, while the Petit-Mont at Arzon had an oval mound succeeded by three cairns, the later two of which contained passage graves (Lecornec 1994: 34). Equally, Castelic Ware has been recovered from beneath the passage grave of

the Table des Marchands in Locmariaquer (Cassen 2009). Evidently, in this region at least, the construction of passage graves post-dated that of long mounds. Yet other monumental forms may have been even earlier. Menhirs or standing stones, some of them decorated with representational designs, have been recognized as having been incorporated into passage graves at Gavrinis, Barnenez, Mané Rutual, Kercado and others, in some cases having been broken up beforehand. The Table des Marchands had a capstone composed of part of one menhir, while the chamber had been built around another decorated standing stone that served as the back-stone (Cassen 2000b: 237, 2004: 412, 2005: 199). Menhirs have also been found beneath long mounds, as at Mané Ty Ec, while the serpentiform decoration on the menhir at Le Manio 2 had been executed before the long mound had been built up around it (Scarre 2011: 74).

Many of the menhirs that were incorporated into long mounds and passage graves in southern Brittany were apparently removed from an alignment of nineteen or twenty standing stones that had terminated at the enormous Grand Menhir Brisé in Locmariaquer (Cassen 2009: 885) (Figs 3.18–3.20). The capstone of the chamber in the nearby Er Grah long mound was itself a fragment from a menhir. The destruction of the decorated stones can be identified as an act of iconoclasm, erasing a particular suite of symbols, or as a means of removing those symbols from public view, transforming them into a form of restricted knowledge (Fig. 3.21). Scarre (2011: 99) relates the breaking and dispersal of the menhirs to the process of ‘enchainment’, in which the fragmentation and circulation of objects creates connections between persons or places. In these terms, new monuments might have been understood as drawing their power from a location where events of great consequence had taken place. The decorated menhirs themselves, arguably the very first monuments in Brittany, carried a range of motifs which, while clearly representational, remain ambiguous. While for some they connote the Neolithic world of ploughs, axes, quadrupeds and corn, they have equally been related to a hunter-gatherer cosmology of throwing sticks, whales and wild animals, or more generally to themes of power, virility and aggression (Cassen and Vaquero 2004: 34). It has been argued that upright stones were initially used as grave markers (Cassen 2004: 412), for which precedent can be found in both Mesolithic and Neolithic contexts. At Höedec, Graves K and J had small stone slabs erected at the head-end of the pit (Cassen and Vaquero 2004: 35). Yet at La Haute Mée a probable grave containing two stone axes and associated with a Villeneuve-Saint-Germain longhouse was covered by a granite slab that had originally stood upright, and which may have been anthropomorphic, dated to around 4800 BC (Cassen et al. 1998). While the smoothed and decorated stones of the Morbihan contrast with the undressed rocks used for Mesolithic cists and grave markers, Scarre (2011: 66) points to the Le Douet alignment as evidence that some of the earliest standing stones may have been unworked. Taken together, the evidence suggests that like the long mounds, the erection and decoration of standing stones drew on both Mesolithic and Neolithic cultural traditions.

More problematic is the question of whether passage graves were introduced to the Morbihan having already developed elsewhere, or whether they were everywhere a feature of the later fifth millennium BC. Radiocarbon dates from Ty-Floc’h, Beg an Dorchenn, Port-Blanc, and the Table des Marchands indicate

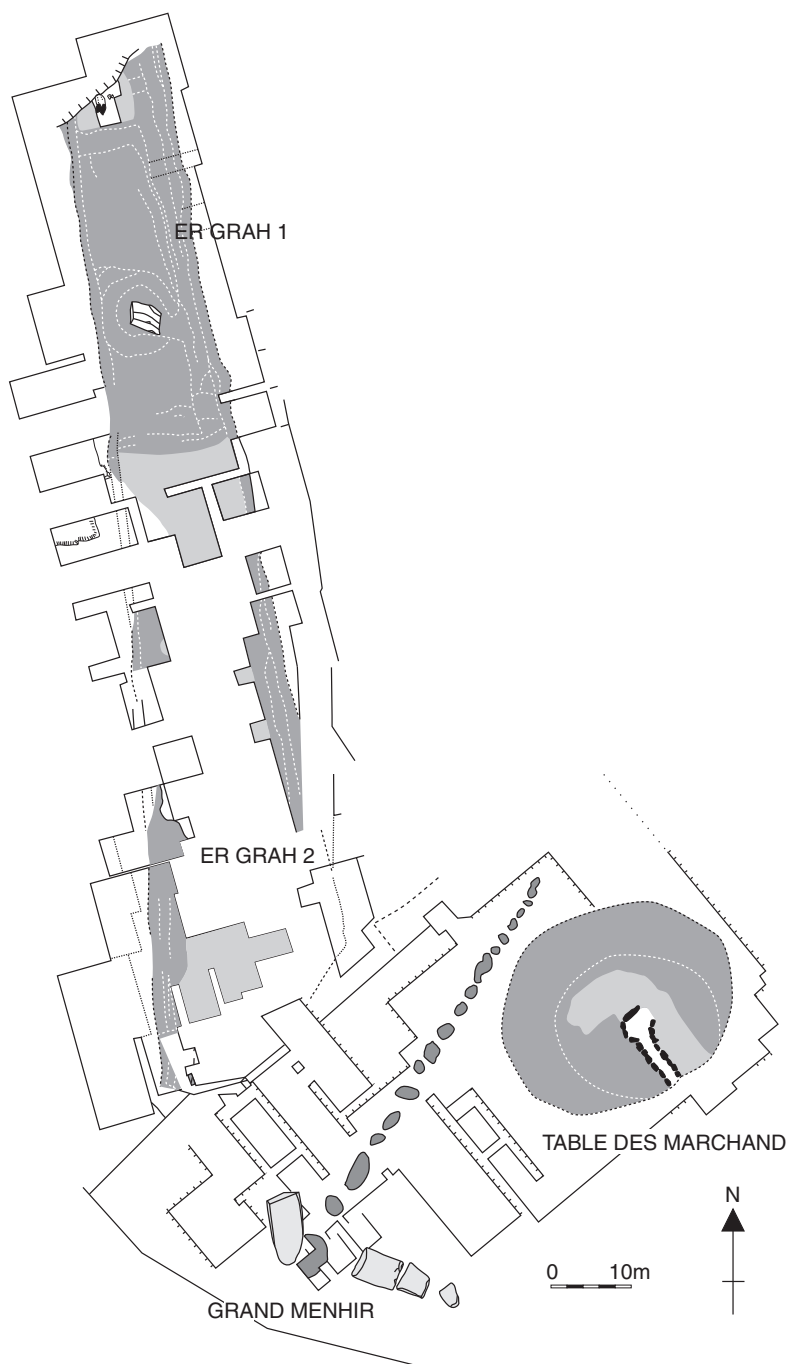


Fig. 3.18. Plan of the long mound of Er Grah, the Grand Menhir Brisé, and the Table des Marchands passage grave (drawn by Joanna Wright, after Cassen 2009)



Fig. 3.19. The Grand Menhir Brisé, Locmariaquer, Morbihan (photo: author)



Fig. 3.20. The Table des Marchands passage grave, Locmariaquer, with the stoneholes of the earlier alignment of menhirs in the foreground (photo: author)

that passage graves were built and used in Brittany between 4250 and 3990 BC, clearly post-dating both menhirs and long mounds, including the Carnac mounds. It is arguable that amongst the passage graves, corbelled chambers may have preceded chambers with capstones in some areas, but it is clearer that transepted and sub-divided chambers are later than undivided chambers (Cassen 1993b: 200; Scarre 2011: 139). Laporte and Tinévez point out the importance of



Fig. 3.21. Decorated menhir incorporated as the backstone of the chamber of the Table des Marchands (photo: author)

including Iberia in any discussion of the origins of megalithic tombs, since in this area the influence of the *Bandkeramik* tradition is entirely absent, and yet chambered cairns of relatively early date are present (2004: 231). None the less, as we have seen above, it is not easy to identify any passage tombs in Spain and Portugal that have categorical evidence for construction much before 4300 BC (Jorge 2000: 59; de Jesus 2006: 128). Significantly, though, long mounds are absent from Iberia, affirming their connection with the post-LBK horizon. As we have seen, there are

closed cists of fifth millennium date containing multiple burials known from the south-west of France, far from any Danubian occupation (Scarre, Laporte, and Joussaume 2003: 245). The very early radiocarbon dates initially cited for Barne-
nez and other Breton passage tombs were often from charcoal that either pre-
dated the monuments, were subject to old-wood effect, or had very wide standard
deviations (Cassen 2004: 412). None the less, the radiocarbon results from the
passage tomb cemetery of Bougon in Poitou-Charentes may indicate an origin in
the mid-fifth millennium BC, although the dates might benefit from statistical
analysis (Scarre, Switsur, and Mohen 1993: 857; Scarre 2003: 42).

In Brittany, Normandy and the Channel Islands, passage tombs may be no earlier
than the last quarter of the fifth millennium, but the possibility remains that long
mounds and menhirs on the one hand, and megalithic tombs on the other emerged
side-by-side in mutually exclusive areas, in which different Neolithic traditions
dominated (Fig. 3.21). Bougon and the Iberian sites suggest that passage tombs
may have been created in the interaction between Mesolithic groups and the Epi-
Cardial Neolithic, but the asymmetrical trapezoidal plan of some early chambered
cairns in western France (including Bougon and Prissé-la-Charrière) has been
argued to ultimately derive from the off-centre spatial organization of Villeneuve-
Saint-Germain longhouses (Scarre et al. 2003: 78). In any case, it is apparent that the
overlapping suite of monumental forms represented by long mounds, menhirs and
passage graves, all of which may have some level of association with death and
ancestry, have to be understood in terms of the juxtaposition of Mesolithic, central
European, and west Mediterranean cultural repertoires. These were combined and
elaborated upon in order to bring new aspects of the European Neolithic into
existence.

CONCLUSION

The spread of domesticated species and Neolithic artefacts into northern Europe
placed them into a series of radically different social and ecological contexts, with
the result that a series of distinctive 'Neolithics' were brought into being. The
processes involved in the geographical extension of new practices were themselves
diverse. As we have seen in southern Europe, while population pressure was not
often the principal motor of change, the dispersal of population may more than
once have been a reaction against the social regulation or incipient hierarchy
promoted by high-density sedentism. Where such dispersals took place, it may be
inaccurate to imagine that they always took the form of a discrete and bounded
community relocating itself in a hitherto entirely unknown landscape. More often,
scattered agricultural groups filtered in through established relationships with
local hunter-gatherers, which had initially existed to facilitate exchange. In the
process, indigenous people were recruited or absorbed into farming societies.
Even where the movement of large numbers of people appears to have taken
place, as with the initial expansion of the LBK, it seems to have involved both
existing contacts and the progressive incorporation of local people, whether by
marriage or affiliation. The distinctive, standardized, and easily recognizable
character of LBK artefacts, architecture, economic activities and culinary practices

enabled it to operate as an open network, which only later developed toward greater boundedness and internal conflict. This conflict might conceivably have been seeded by the growing competitiveness of *Bandkeramik* society, to judge from the indications of cattle feasting. But feasting in the LBK was evidently different from that in the Greek and Bulgarian Neolithic, where small, independent households vied with each other for advantage. The increasing scale of social networks in central Europe was signalled by the emergence of LBK enclosures. The greater size of the effective social unit is likely to be connected with the growing importance of cattle, and the seasonal movement of herds beyond the immediate environment of the settlement.

The shift from sheep to cattle, and the related change of emphasis away from cereals and pulses and toward livestock as the Neolithic progressed from south-east to north-west is one of the overarching themes that we will emphasize in the next chapter. The process was still more marked on the North European Plain and in southern Scandinavia. Here, the balance between agricultural migrants and local hunters changed, and it is arguable that a system directed at the generation of meat and mobile wealth as opposed to staple crops will have been more attractive to the latter. Another increasingly important aspect of the inception of the Neolithic north of the Alps was that of boundaries or frontiers between established farming communities and enduring Mesolithic bands, understood as zones in which cultural hybridity will tend to be created. This, again, will be addressed in more detail in the next chapter. The existence of such frontiers, and of enclave settlement, was a particular feature of the LBK and its immediate successors, and seems to have declined with the TRB and Michelsberg. This prompts the speculation that after the late fifth millennium BC a different *kind* of Neolithic had come into being in north-west Europe, one to which Mesolithic traditions and practices were more integral. This is especially evident in the way that Mesolithic funerary customs and material symbols were incorporated into long mounds in both northern France and Poland. Continuity of practice across the Mesolithic-Neolithic boundary is complemented by continuity in the use, significance and even veneration of place, in both Scandinavia and Brittany, for instance. Yet although there is evidence that Mesolithic elements became central to the Neolithic in northern Europe, there is also more indication of cultural resistance to Neolithization, and this adds a distinctive dynamic to developments in the area. Consequentially, the pace at which change took place was highly varied. In the next chapter, we will build on some of these themes to indicate the broader context within which the Mesolithic-Neolithic context in Britain took place.

The Neolithization of Europe: Themes

INTRODUCTION

Addressing the beginning of the Neolithic in Europe on a regional basis, we have so far emphasized the distinctiveness of local patterns and developments. In this chapter, we will consider the extent to which these diverse sequences were unified by either global regularities or overarching vectors of change. Douglas Price (2000: 317) asks whether the expansion of the European Neolithic demands one single explanation, or many, and it may be that this is principally a question of scale. Marek Zvelebil (2004a: 45; see also Zvelebil and Lillie 2000: 57) emphasizes the extent of regional variation within the continent, but argues that the common feature throughout is the shift from hunting and gathering to agro-pastoral farming. There can be little doubt that at a global level this major transformation of subsistence economy stood behind the changes that overtook Europe between the seventh and third millennia BC. But, on the other hand, not all of the people caught up in these complex developments will have been entirely committed to an agricultural way of life. In some cases the initial adoption of domesticated plants and animals may have been a side effect of other changes, while its full implications may at first have been neither acknowledged nor fulfilled. In some cases again, an initial enthusiasm for domesticates may have slackened over time. However, it appears that social changes embedded in more elaborate use of material culture were rarely reversed. Communities seldom reverted to a fully Mesolithic way of life (Robb 2013). In this chapter the task is to identify any unifying themes that characterized the opening of the Neolithic in various parts of Europe, without pre-judging the impact that large-scale or long-term processes might have had in the specific case of Britain.

Given that the Neolithic appears to have taken appreciably different forms in different areas, it might be fruitful to think of it as an unfolding historical process, rather than an archetypal or trans-historical entity composed of fixed elements. Indeed, strong arguments have been made against identifying the Neolithic as either a horizon of revolutionary change or an invariant ‘package’ of interrelated cultural novelties (Pluciennik 1998: 78). The problem of potentially reinforcing the perceived gulf between hunter-gatherers and agriculturalists is real enough, but the term ‘Neolithic’ serves as a placeholder for a set of significant issues in European prehistory, and its abandonment would probably only result in its replacement by some other locution. It is perhaps more helpful to adopt a critical attitude toward the concept, and to be mindful of the assumptions that its use tends to foster. The Neolithic is often defined on the basis of the co-occurrence of

a series of innovations, but their mutual association needs to be explained rather than taken for granted. In the culture-historic archaeology of the earlier twentieth century, the identification of an artefactual assemblage, architectural forms, mortuary rites, and a set of subsistence practices as the 'culture' or material signature of a human community appeared unproblematic. They could be collectively understood as the surface manifestation of an underlying coherence or identity, maintained as shared norms and customs (Binford and Sabloff 1982: 142). Similarly, the simultaneous appearance of the principal south-west Asian domesticates (wheat, barley, lentils, sheep, goats, cattle, and pigs) in south-east Europe can be interpreted as constituting the interdependent elements of an integrated system of mixed farming (Halstead 2006: 51). Such a regime is logically easier to translocate than one based on roots and tubers (Harris 2007). In consequence, their arrival can be understood as an example of 'package transmission' (Watson 2003: 36). However, we have seen that in some parts of Europe these domesticated species occur alongside a particular set of artefacts, but that in some cases only a sub-set of plants, animals, or material objects occurs. This demands that we should consider precisely what was spreading from region to region, by what mechanism (Zvelebil 1989: 380), and indeed whether the language of 'spreading' or 'transmission' is adequate to describe what was actually taking place. Moreover, it requires that we should ask why it has been possible to think of the Neolithic as a mutually related assembly of traits that virtually transcends its historical context.

These ways of conceptualizing the Neolithic can arguably be attributed to Enlightenment narratives of social evolution and progress, which took the form of conjectural histories (Cassirer 1951: 215; Harris 1968: 29; Horowitz 1987: 53; Adams 1998: 20; Pluciennik 2005: 55). Such histories conventionally ordered forms of social organization or economic regimes into stadial schemes (savagery, barbarism and civilization, or hunting, pastoralism and husbandry). Subsequently, the work of Lewis Henry Morgan and Émile Durkheim, in their different ways, enforced the notion that the different aspects of a society will either proceed in concert, or form complementary expressions of an articulated whole (Morgan 1877: 8; Durkheim 1974: 24; Marshall 2006: 153). In such schemes, hunter-gatherers were often portrayed as leading a precarious existence, while agriculture was an unequivocal advance. The domestication of plants and animals provided more nutritious and more reliable sources of food, and obviated the need to wander from place to place in search of sustenance. This and the need to continuously tend and protect crops encouraged sedentism, and the emergence of more permanent forms of shelter. Where people settled down, they were able to invest in both storage facilities and more bulky forms of technology, including food-processing apparatus, more diverse stone tool assemblages, and pottery. Ceramic vessels enabled starchy foods to be boiled down into readily digested meals. The combination of reliable food sources, a reduction of arduous wandering from place to place, and the construction of permanent shelter meant that more infants survived to adulthood, and consequentially population began to rise. Larger, more concentrated populations with an increasingly elaborate division of labour created a need for established leadership to direct tasks and reconcile disputes, and as a result social inequality began to increase.

These arguments possess a pleasing architecture, and they have informed many accounts of the early development of agriculture, from the monumental surveys of

Gordon Childe (1925, 1928, 1929) onwards. Yet they are essentially hypothetical, and have not always been borne out by the evidence, whether archaeological or ethnographic. The complexities of human history are such that people do not always behave in the ways that would be predicted on grounds of progress, efficiency or adaptation. The impoverished condition of hunter-gatherers is not a given, and where it occurs is often a product of colonialism or other modern forces. Very often, hunter-gatherers have been able to provide for their needs with a more modest investment of effort than horticulturalists, with the result that they have sometimes been described in somewhat overstated terms as the 'original affluent society' (Sahlins 1972; Dennell 1983: 154). The belief that agriculture is a self-evident advance on hunting and gathering, and that hunters would seek to become farmers whenever they were given the opportunity, is unfounded (Zvelebil 1986: 9; Barker 2006: 392). Hunter-gatherers often go to some lengths to retain their established way of life, even where they have regular contacts with agriculturalists. Intensive food-processing technologies, such as heavy grinding stones, often exist in pre-agricultural contexts (Redman 1977: 526; Miller 1992: 43), while pottery is frequently used by mobile societies (Hoopes and Barnett 1995: 5). The belief that the emergence of social elites, who operate as economic managers, is a problem-solving response to changing population-resource relationships has justifiably been criticized as both functionalist and naïve in its failure to comprehend power relations (Arnold 1993: 79). And finally, the assumption that the adoption of agriculture leads people to settle down, change their demographic characteristics, and begin to spread into new territory (e.g. Bellwood 2002: 17), has been firmly contested. As we have already seen, in various parts of prehistoric Europe sedentism can occur without farming, while people can make use of domesticates without becoming sedentary (Marshall 2006: 155). Indeed, there are good reasons to avoid settling down, such as increased susceptibility to disease, restriction of dietary options, and the limitation of exchange and social interaction; there are also incentives to sedentism that are unrelated to agriculture (Hitchcock 1982: 255).

Dominant narratives of the European Neolithic have laid much stress on the idea that the domestication of plants and animals changes the demographic profile of human groups, so that they increase population in a way that hunter-gatherers cannot match (Ammerman and Cavalli-Sforza 1971: 687; Bocquet-Apel and Dubululoz 2004; Bellwood 2005: 43; Bocquet-Apel and Naji 2006). The process of expanding farmers taking in new land is often understood to lie behind the gradual geographical spread of particular material assemblages. Lurking beneath this picture is the implicit (sometimes explicit) understanding that farmers will be more technologically advanced, which is itself another product of step-wise evolutionary schemes, in which economic progress is presumed to be matched by progress in other spheres. The signature of an expanding agricultural population is thus a material culture distribution with 'a high level of coherence and homogeneity' (Bellwood 2002: 22). However, as Robb and Miracle point out (2007: 104) there is no reason to presume that economy, ethnicity and material culture should coincide, and they have rarely been observed to do so ethnographically. In the context of prehistoric Europe, Zvelebil (1996: 331) gives the example of the Boat Axe Culture, which was made up of agriculturalists in Sweden, hunter-gatherers in Finland, and pastoralists in the Eastern Baltic. The presence of a

particular artefactual assemblage cannot automatically be taken as diagnostic of either an economic regime or a social identity.

A further problem that can be attributed to Enlightenment philosophical histories has been a focus on the idea that progress has involved the increasing human mastery of nature (Bauman 1991: 37; Gray 1995: 182–4). In this way of thinking, the change from food gathering to food production marks a critical juncture in the development of the relationship between human beings and nature, in which reason and technique enable a position of dominance to be achieved for the first time. However, the implied opposition between human culture and the elemental forces of nature is a modern invention (Collingwood 1945: 111), probably very remote from the experiences and understandings of people in the European Neolithic. Furthermore, as Tim Ingold argues (1996: 12), the notion of ‘food production’ is itself deeply flawed. For not only does it incorporate the modern metaphysic in which the world is reduced to a store of resources that stand in passive opposition to humanity, it also implies that farmers ‘make’ food. In contrast to this view, Ingold argues that human beings alter the conditions under which the natural growth of plants and animals takes place. In Darwinian terms, human beings transform the selective pressures affecting ‘domesticated’ species, by planting and weeding, selectively culling, removing predators, and controlling reproduction. But this is not action performed upon an objectified nature, conducted from without. Instead, it involves changes in the way in which people negotiate their place in the world, through their relationships with beings and materials of various kinds. Farming, like hunting and gathering, is best understood as a ‘form of life’, in which the activities directly involved in the acquisition of food are submerged in the habitual and intentional conduct of everyday existence. The Neolithic was not a time in which people positioned themselves outside of the world and its processes, but one in which they were able to knit themselves into the world in new ways.

While Pluciennik (1998: 78) argues that the Neolithic ‘may be “just another” case of diffusion, but one that has been made special by our privileging of subsistence and economy as a classification within archaeology’, I want to retain the sense that it represented an important horizon of change, marked by fundamental social developments, even if the details of subsistence economy and technology varied from region to region. In south-west Asia, the new kinds of relationships that people established with plants and animals in the post-glacial era were distinct from those that had existed at any time in the past, despite numerous previous cycles of climatic change and variations in the richness and accessibility of living things (Hayden 1990: 35). The domestication of plants and animals was the culmination of a series of non-reversible historical developments, rather than one intensification amongst others (Binford 1968: 332; Flannery 1969: 77). Its distinctiveness lay in the qualitatively novel social relationships that were being created between humans and non-humans, although these should be seen as only one element in the changing way that people were coming to find their place in the world. It might be that if we wanted a catchall definition for the Old World Neolithic, we should reject the idea that it was a primarily economic, technological or ideological phenomenon, and say that it involved a transformation of human relationality. That is to say, it was neither an entity nor a package, but a new mode of sociality, in which the relations between persons were increasingly mediated

and supported by artefacts, animals and land. This new sociality provided the conditions under which the herding of animals and the cultivation of plants became sustainable, although it did not dictate the contribution that they would make to subsistence.

CHANGING CONCEPTIONS OF EUROPEAN NEOLITHIZATION

Over the past century, one of the principal ways in which the European Mesolithic-Neolithic transition has been repeatedly re-evaluated has been through changing views of innovation and population movement. Gordon Childe's influential culture-history combined aspects of the Malthusian view that new practices and technologies are generally inspired by necessity (implicit in his 'oasis theory' of domestication) with the diffusionist argument that new cultural phenomena are likely to have a single point of origin. Agriculture thus originated in the Near East, and was brought into Europe by colonizing groups of farmers: Starčevo, Cardial, Danubian, and Western Neolithic cultures (Childe 1958: 43). Some of these entered the continent through the Dardanelles, but others may have been herds-men driven into Iberia by the desertification of the Sahara (Childe 1958: 54). While the mechanism of Neolithic dispersal was therefore one of folk migration, Neolithic ways of life were 'adjusted' to specific environments, so that the artefactual assemblages of specific peoples became appropriate to their circumstances (Childe 1950: 2). A rather different perspective was offered by the geographer Carl Sauer, who argued that the domestication of plants and animals was a phenomenon that was likely to have emerged out of long periods of experiment. 'Needy and miserable' societies would not be at liberty to engage in trial and error: early agriculturalists would have been people who already had rich resources at their disposal (Sauer 1952: 21). Sauer suggests that fishing people would have been best placed to try new ways of acquiring food alongside their reliable staples. The contrast between Childe and Sauer neatly encapsulates the distinction between compulsion and opportunity that runs through many subsequent discussions of the adoption of agriculture. Only Childe, however, bound his arguments to a concern with the social and cultural developments of prehistoric Europe.

The dynamic for an explosive population expansion northward and westward across Europe was further explored by Grahame Clark in his account of 'early peasants' seeking out light, easily worked soils on which to practice slash-and-burn cultivation (J. G. D. Clark 1952: 91-2). It was Clark, too, who first identified that emerging pattern of radiocarbon dates, which suggested a Neolithic dispersal from the Balkans toward the Atlantic, albeit at a rather earlier date than had once been imagined (J. G. D. Clark 1965: 67). Clark's founding role in developing an 'economic prehistory' would paradoxically inspire a very different view of early agriculture, in which domestication was not understood as a human 'invention', but an adaptive strategy (Higgs and Jarman 1972: 12). Contrary to Childe, Higgs and Jarman proposed that the intensification of human relations with plants and animals was likely to have waxed and waned with ecological conditions, and

perhaps many times had approached domestication. Yet domestication, for them, was not different in kind from the relations of mutualism, commensalism or parasitism that exist amongst non-human species: it is a biological relationship between organisms. Like Childe, though, they emphasized the role of selective pressures in transforming these conditions.

Higgs and Jarman's views would stimulate approaches to the European Neolithic that sought to minimise the importance of population movement, and which stressed the importance of indigenous developments, which might include forms of economic intensification (Dennell 1983: 152; Barker 1985: 71). These arguments can be contrasted with a broadly contemporary development, which made use of evolutionary and biological ideas in a completely different way. Ammerman and Cavalli-Sforza (1971, 1973) focused on the revolutionary demographic consequences of farming (discussed above), which they claimed caused population to rise in areas where domestication and sedentism had developed (in practice, south-west Asia). Ultimately, this resulted in the carrying capacity of the inhabited landscape being exceeded, so that a surplus population was generated. Groups of farmers would then 'bud off', going out and settling in the nearest uncultivated areas, and the process of population rise would then begin again. Because the sequence was one that was density-dependent and driven by population expansion, it could be expected to proceed at a constant and predictable rate. This 'demic diffusion' was a cumulative, unplanned process, composed of numerous short-distance movements, and was contrasted with colonization on the one hand and cultural diffusion (the transfer of novelties between communities) on the other (Hansen 1999: 156; Cavalli-Sforza 2002: 80; Fiedel and Anthony 2003: 145). Demic diffusion would be expected to progress at a slower rate than cultural diffusion, and this was considered to account more accurately for the observed pattern of radiocarbon dates, documenting the gradual spread of the Neolithic across Europe (Ammerman and Cavalli-Sforza 1971: 675; Cavalli-Sforza 2003: 298) (Fig. 4.1). For Ammerman and Cavalli-Sforza, the Neolithic was synonymous with 'early farming', so that Neolithic artefacts were considered to have spread alongside the other elements of the package. Consequentially, if pottery were present at a given site it could be assumed that cereals had been as well, and only inadequate recovery methods had prevented the more widespread discovery of the remains of domesticated plants (Ammerman and Cavalli-Sforza 1971: 674). It remains one of the failings of population models of Neolithic expansion in Europe that although they may allow for the effects of mountains, sea-crossings and the density of hunter-gatherers in delaying the process, they none the less rely on the assumption that the Neolithic was essentially homogeneous from one end of the continent to the other (Bocquet-Appel et al. 2012: 537; Fort, Pujol, and Vander Linden 2012: 204). That is to say, they are fundamentally ahistorical.

The different positions adopted by Dennell, Barker, and others on the one hand and Ammerman and Cavalli-Sforza on the other were eventually polarized around the issue of 'indigenism'. If domestication is merely one form of economic intensification, which has occurred on numerous occasions, then sheep, goats, aurochs, pigs, wheat, barley and lentils might each have been domesticated in post-glacial Europe, independent of developments in western Asia. A comparable view animates Srejskić's (1972: 151) argument that the Lepenski Vir Culture had

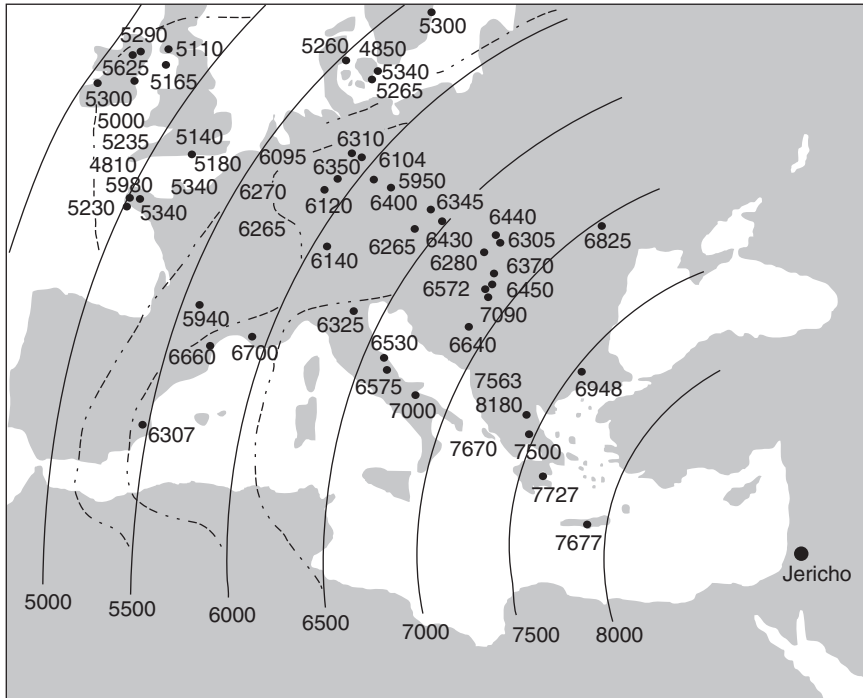


Fig. 4.1. Ammerman and Cavalli-Sforza's diagram of the expansion of agriculture across Europe (redrawn from Ammerman and Cavalli-Sforza 1971)

developed toward agriculture independently and spontaneously, on the basis of the sedentary way of life that had been established during the Mesolithic (see Chapter Two). Ammerman (1989: 162) identified this perspective with a post-colonial desire to create a national past that was autonomous and self-contained. Each past society could be seen as a bounded entity, progressing at its own rate toward its own particular destiny. Ultimately, such indigenist arguments aligned themselves with atavistic nationalism, by legitimizing the claims of modern nations to descent from independent agricultural civilizations (Ammerman 2003: 14). Mehmet Özdoğan put this case in still more trenchant terms, pointing out that narratives that rejected a role for agricultural pioneers from Anatolia in the foundation of the European Neolithic were reactionary and Eurocentric, seeking to establish precedent for the division between the Christian and Islamic worlds (1997: 1–2). Yet the problem with Ammerman's critique is that it effectively consigns the Mesolithic populations of Europe to the position of passive bystanders, awaiting a Neolithic wave that would wash them off the map. This had been the weakness of classical diffusionism: because history was held never to repeat itself, cultural change occurred in a single 'hearth', and then rolled out across territories inhabited by uninventive drones (Harris 1968: 382; Trigger 1989: 154). There are, clearly, political implications to accepting that the European Neolithic was *either* wholly endogenous or entirely imposed from outside.

On the basis of the radiocarbon dates that were available to them in the early 1970s, Ammerman and Cavalli-Sforza calculated that the Neolithic had spread across Europe at a rate of approximately 1.08 kilometres per year (1971: 684). More recently, Gkiasta et al. (2003: 51) have suggested that a figure of 1.3 kilometres per year is probably more accurate. Perhaps more significant is the recognition that the expansion of Neolithic sites was not the regular and continuous process that Ammerman and Cavalli-Sforza's population model had predicted. In Eastern Europe, the advance slowed down in landscapes characterized by thick forests, lakes, and cold winters (Zvelebil 1989: 381). Conversely, the expansion of the *Linearbandkeramik* (LKB) was much faster than would be expected from demic diffusion, at around 5.59 kilometres per year. The obvious implication of this evidence is that the dispersal of domesticates and Neolithic material culture in Europe was not a homogeneous process, and that a variety of different mechanisms may have been at work, rather than just a steady rise of population. Moreover, as the radiocarbon evidence was gradually refined it became increasingly clear that Neolithic expansion had not been continuous, but had alternated between bursts of rapid extension and periods of stasis. As we saw in Chapters Two and Three, phases of standstill followed the introduction of the Neolithic into the North Balkans and the North European Plain. One argument that took these hiatuses into account was the 'availability model' of Zvelebil and Rowley-Conwy (1984, 1986). This approach proposed that where a 'frontier' had been created between farmers and hunters, following the introduction of the former into a new geographical zone, contact between the two communities should be expected. Hunters and gatherers would gain access to domesticated resources for the first time, and over a period might come to substitute them for traditional food sources. Finally, a period of consolidation would see the final transformation of hunters into farmers. While the process as a whole might have been played out over a very long time, the consolidation phase could sometimes be very swift.

The great advantage of the availability model was that it outlined a process by which Mesolithic societies might have been incorporated into the Neolithic world, through their own choices and actions. However, it has been argued that the model is more descriptive than explanatory (Price 2000: 268). In practice, the explanatory motor that was lashed to the availability framework was generally some form of stress model (Hayden 1995a: 287). External factors such as resource depletion are presented as having a critical impact upon societies that had a partial investment on domesticated resources, forcing them to become fully agricultural. This move introduces an element of functionalism into what is otherwise a fruitful approach, and it is notable that these arguments rely heavily on the notion that agricultural and hunter-gatherer ways of life are mutually incompatible. We will discuss this idea further below, but in passing it is worth considering that this view might owe something to stadial social evolutionary schemes: two different economic stages cannot co-exist in the same society. In some cases, stress models overlap with arguments that seek a significant role for climatic change in the geographical expansion of agriculture (e.g. Bonsall et al. 2002: 18; Gronenborn 2007: 90). Revealingly, different variants of the climatic model are mutually incompatible: either climatic amelioration increased the potential of agriculture, and coaxed colonists into new areas, or deteriorating conditions forced hunters and gatherers to adopt a more intensive economic regime. Given the notorious

potential for climatic records to be presented in such a way as to suggest spurious coincidences with archaeological sequences (Harding 1982: 8; Sherratt 1997: 275), such arguments are best treated with a degree of scepticism.

Stress models are conventionally contrasted with competition models, which attribute the change to farming to forces internal to hunter-gatherer societies, principally power struggles played out through feasting and gift-giving (Hayden 1992). Social competition or contradiction could potentially provide an alternative driver for the availability model. As Zvelebil (1986: 10) points out, one potential flaw in such arguments is that they can sometimes seem to imply that human beings are inherently competitive, and seek advantage for themselves wherever possible. This is arguably the case with 'aggrandizer models', which effectively suggest that persons who seek to manipulate social circumstances as a means of securing status or privilege for themselves represent a universal psychological type (Clark 2000: 99). It is hard to see how the generalized reciprocity of hunter-gatherer societies would have survived for any appreciable time if this were the case. But as an alternative, we might argue that contact with the domesticated animals, new artefact types, and new ceremonial practices associated with the European Neolithic might have been corrosive of hunter-gatherer sharing relationships. In other words, rather than a particular form of competition being a human universal, it might have been engendered (or at least amplified) in Mesolithic societies by the geographical proximity of Neolithic groups. Further, while hunters and gatherers might have been able to acquire fine artefacts or domesticated animals from Neolithic communities on an episodic basis, maintaining and reproducing these resources and the skills associated with them would have required a social transformation: becoming Neolithic.

RECENT PERSPECTIVES ON POPULATION MOVEMENT

Ammerman and Cavalli-Sforza followed their work on the distribution of Early Neolithic radiocarbon dates in Europe with an investigation of a series of non-DNA genetic markers in modern populations (1984), seeking to identify the biological traces of agricultural migrants swept in by the 'wave of advance'. The principal components analysis conducted on this evidence indicated a south-east to north-west cline, and this was interpreted as demonstrating that a south-west Asian population had entered the continent at the start of the Neolithic. However, it has been pointed out that the genetic constitution of a modern population is a palimpsest, the outcome of diverse processes over immense periods of time. Europe is effectively a peninsula at one end of the Eurasian landmass, and it is likely that numerous population movements followed broadly the same general course (Bandelt, Macaulay, and Richards 2002; M. B. Richards 2003: 142). More reliable information has emerged over the past fifteen years, with studies of mitochondrial and Y-chromosome DNA in modern populations, which track the inheritance of genetic material in the female and male lines respectively. There is considerable diversity of opinion over the significance and reliability of the results to date (see Busby et al. 2012: 891), but it is likely that many of the DNA lineages in Europe can be traced back to the Palaeolithic (Sykes 2003: 315).

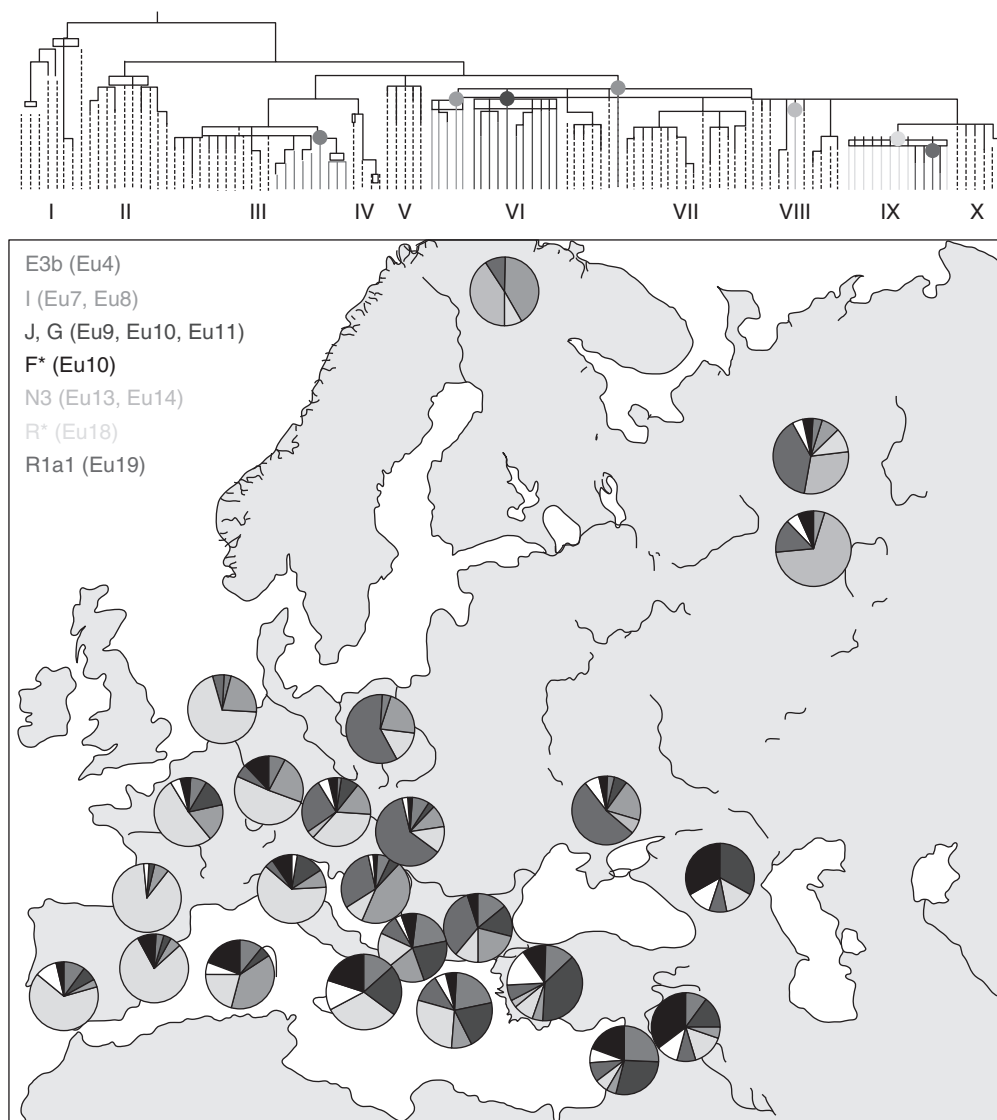


Fig. 4.2. Maximum parsimony tree for the major Y-chromosome haplogroups and their distribution in Europe. The West Eurasian parts of the tree are highlighted and colour-coded (from M. B. Richards 2003, with the permission of the *Annual Review of Anthropology*)

However, a small proportion of both mitochondrial and Y-chromosome lineages may well have arrived from the Near East at the start of the Neolithic: somewhere between 13 per cent and 20 per cent of modern European DNA (Cavalli-Sforza 2002: 85; M. B. Richards 2003: 156) (Fig. 4.2). The geographical distribution of mitochondrial DNA Group 9 appears to correspond to the dispersal of LBK and Cardial groups, suggesting that these episodes did involve some relocation of

population (Sykes 2003: 323). Intriguingly, the patterns of mitochondrial and Y-chromosome DNA seem to differ significantly, indicating that the processes involved were more complex than the simple relocation of entire population groups (Underhill 2002: 65). It is probable that variable patterns of intermarriage between migrants and indigenes were involved in the Neolithization of central Europe and the Mediterranean Basin. These need not have been homogeneous in character, and may have involved marrying in, marrying out, polygamy, alliances secured through marriage exchange, and so on. Certainly, the results do not compare well with either of the extreme arguments: a wave of population movement entirely replacing indigenous communities, or an introduction of domesticates and artefacts with no change in population. Illuminating comparisons can be drawn with results from human skeletal biology, based on metrical and non-metrical trait variation (Pinhasi and Pluciennik 2004: 69). These indicate a greater discontinuity between Mesolithic and Neolithic populations in south-east Europe than elsewhere in the continent, and great diversity amongst Cardial Ware-using people in the western Mediterranean, throwing doubt on the possibility of the dispersal of a distinct population group. Some recent studies of ancient DNA from central European populations suggests that there was a significant Near Eastern component in LBK communities, and that these were quite distinct from Mesolithic groups (Bramanti et al. 2009; Haak et al. 2010). However, the sample sizes are small, and the results are at odds with the isotopic evidence for population admixture during the earliest Neolithic in central Europe. There is also concern that the ancient DNA results have been over-interpreted, and that the evidence is not presently strong enough to distinguish between large-scale migration and indigenous continuity, or numerous other scenarios (Deguilloux et al. 2011: 116).

Overall, the various strands of biological evidence suggest that there was some transfer of population between south-west Asia and the Balkan peninsula at the start of the Neolithic, and subsequent relocations and exchanges of personnel of various kinds. The wholesale 'invasion' of Europe (M. B. Richards 2003) has been questioned, and virtually none of the DNA lineages from south-west Asia seem to have travelled as far as Britain and Ireland. Renfrew (2002: 10) explains this pattern in terms of a 'staged population interaction wave of advance', in which the demographic process described by Ammerman and Cavalli-Sforza involved the progressive absorption of native hunter-gatherers, resulting in the gradual dilution of the original genetic profile of the Near Eastern migrants who initiated the expansion. However, there is a growing willingness amongst archaeologists to accept that the opening of the Neolithic was not characterized by a single continuous population process, and that while the spread of domesticates was a directional process, the movement of people within and between regions, singly or groups of varying sizes, was more chaotic. Indeed, it is arguable that our understanding of the period has been seriously distorted by the conception of the archaeological 'culture' as a bounded and homogeneous entity (Thomas 2004: 111). The notion that ethnicity, material culture, language, territory, and customs should all coincide is one that only emerged with the modern nation-state in the sixteenth century AD. It is highly probable that prehistoric European communities were relatively permeable, and identities fluid, so that people might change affiliations and modes of self-identification repeatedly in the course of their lives. This opens up the strong possibility that people moved back and forth

between groups whom we might identify as formally 'Mesolithic' and 'Neolithic'. Such a picture is by no means incompatible with the DNA evidence.

Attempting to move beyond 'immigrationist' and 'indigenist' perspectives on the Mesolithic-Neolithic transition, Zvelebil (2002: 379) defined what he described as an 'integrationist' point of view. This involves a recognition that human migration may have been involved in the inception of farming in some parts of Europe (principally the Balkans and central Europe), but that elsewhere the adoption of domesticates by hunter-gatherers (at various rates) was more likely (Zvelebil 1989: 380). One of the most positive aspects of this development has been the identification of a range of different processes of mobility and interaction that may have been engaged in by Mesolithic and Neolithic societies. Folk migration is both an extreme and rare form of mobility (Robb and Miracle 2007: 106), and Zvelebil expanded the palette to include frontier mobility, leapfrog colonisation, elite dominance, and infiltration (Price 2000: 271; Zvelebil 2004a: 44). Significantly, the scale of relocation of personnel varies immensely between these different patterns. Despite this, it is notable that although the mechanisms involved are highly varied, 'integrationist' perspectives generally maintain that what was being transferred or transmitted was broadly invariant. In other words, the Neolithic was principally distinguished by the materials and methods of agropastoral farming, no matter how it got from place to place. This contrasts with the argument we have been making thus far, that the character of the Neolithic subsistence and technology underwent non-reversible changes in the course of their spread across Europe.

As we saw in Chapters Two and Three, one particular dispersal mechanism that has attracted much discussion in recent years has been leapfrog colonisation, as with Zilhão's discussion of Iberia and Runnels and van Andel's account of the Greek Neolithic. Leapfrog colonisation is the polar opposite of the non-intentional process of demic diffusion, and involves the identification of areas that are ideal for agricultural settlement, and their colonisation by small groups of people in a planned and highly organized fashion (Zvelebil 2004a: 44). Such episodes occur sequentially, and the areas colonized may be separated by large expanses of non-optimal land, which was often subject to infill settlement in subsequent phases of the Neolithic. One problem is that it may be quite difficult to distinguish leapfrog colonization from other mechanisms on the basis of archaeological evidence alone. For instance, Bogucki (2000: 211) holds that the dispersal of the LBK involved population movement, but that this was neither intentional nor planned. At most, there may have been a few periods of major long-distance colonisation, but these were followed by infilling which amounted to a localized form of demic diffusion. Yet Price, Gebauer, and Keeley (1995: 105) maintain that LBK expansion was premeditated and directed. It is hard to choose between these arguments, and the picture is further complicated by Dark and Gent's argument (2001: 72) that the high cereal yields achieved before pests and plant diseases built up in a given area may have served as an additional 'pull' factor affecting the spread of LBK settlements. A further issue is that arguments reliant on leapfrog colonisation sometimes appear to assume the inherent superiority of agriculture over hunting and gathering, in that small groups of farmers are held to enter a region and provide a catalyst for economic change on the part of more numerous local Mesolithic people (Barnett 2000: 103). On the other hand, Scarre's (2002b:

399–402) account of Villeneuve-Saint-Germain groups as pioneer agriculturalists hypothesized that these were eventually swallowed up by the hunter-gatherers.

Along with traditional models of folk migration, the concept of leapfrog colonization raises the difficulty that long-distance relocation may place people into conditions that they do not fully understand. The potential dangers attending movement into unknown environments were cited by Dennell (1983: 174) as a reason why neither hunter-gatherers nor farmers would seek to stray outside of familiar territory without compelling incentives. As Meltzer (2003: 225–6) points out, the factor limiting the spread of agricultural settlement may not be ecology or climate, but intelligibility. Landscapes need to be learned (including social landscapes), and features such as natural route-ways, landmarks, neighbouring groups, soil characteristics, animal migration patterns, climatic regimes and hydrology have to pass from discursive knowledge to tacit understanding and social tradition for people to be fully at ease with their surroundings. Where movements akin to leapfrog colonization appear plausible in the European Neolithic, we have seen that they generally seem to have involved some degree of collusion on the part of local hunter-gatherers, and often followed on from protracted periods of interaction and exchange of goods. In southern Greece or in central Europe, the introduction of farming populations into new areas may have followed extensive negotiations with indigenous people, whose knowledge of the landscape might have proved essential. In this sense, we have argued that where the beginning of the Neolithic took the form of migration, this often involved incomers inserting themselves into existing patterns of social relations. Despite this, it is equally possible that the speed of LBK dispersal was facilitated by the homogeneity of the landscapes that *Bandkeramik* communities inhabited, so that the amount of learning that was required in any particular relocation was minimized. As the limits of the loess were reached, the speed of expansion slowed.

SKILLS, PRACTICES, AND KNOWLEDGE

We have reflected already on the question of whether the European Neolithic was composed of a fixed set of constituent elements. But an equally serious problem lies in the way that we imagine the skills of artefact manufacture or the practices of animal husbandry and plant cultivation being passed from group to group or generation to generation. Gkiasta et al. (2003: 46), for instance, distinguish between three possible modes by which agriculture might have been dispersed across the continent: demic expansion, demic diffusion, and trait adoption-diffusion. These are little different from the options that we have seen proposed in relation to Ammerman and Cavalli-Sforza's arguments, but it is significant that in this case the only alternative to various forms of population movement is described in terms of the *transfer of traits*. This places the process into the context of theories of cultural transmission, which present culture as being composed of atomized bits of information, which pass between persons as discrete entities (Boyd and Richerson 1985; Bentley and Shennan 2003). Such a view is comparable with the highly influential work of the anthropologist Franz Boas, in which the cultural repertoire of a particular people is composed of an array of mutually exchangeable

traits: artefact styles, kinship terms, myths, and so forth (Kroeber and Kluckhohn 1952: 160). This tends to neglect not merely the way that cultural elements are mutually implicated in a 'form of life', but also the sense that much of what makes up a person's cultural inheritance is composed of dispositions, understandings and habits which are not explicit and do not form discrete units, but which are the precondition for both deliberate and unconsidered acts (see Chapter Eleven for further discussion).

It follows from this that change from a Mesolithic to a Neolithic way of life involved more than the transfer of a set of modular behaviours from one group of people to another. Where indigenous people adopted domesticates and the manufacture and use of new kinds of artefacts, the acquisition of skills, practices, dispositions and cultural knowledge must have been involved. This would not necessarily have been homogeneous: some kinds of expertise would have been picked up more easily than others, and different people would probably have acquired different kinds of know-how. Vitelli (1995: 62), for instance, suggests that the ability to make pottery vessels might have represented esoteric or magical knowledge, limited to a few people. This might easily have proved divisive in hunter-gatherer societies entering a period of transformation. For people who had been born and brought up in Neolithic communities, the skills of herding and tending to cattle, or of grinding and polishing stone axes, will largely have been learned in a tacit way: watching and helping older people in their daily tasks, only occasionally having to be explicitly instructed. But where such skills did not form part of established cultural traditions, they would have to be passed on through discursive means, something like tuition or apprenticeship. Under these circumstances, learning takes the form of following an explicit rule, until skills become routine, and eventually habitual and unconsidered (Dreyfuss 2000: 160). The critical implication of this is that where new kinds of competence were being passed between communities with different cultural traditions, what was normally implicit and non-discursive was rendered explicit, and susceptible to evaluation. In other words, the encounter between farmers and hunter-gatherers would have provided an opportunity for people to discuss why they did things in the way they did, and to contest or modify their otherwise accepted norms.

The objects, architecture and domesticated plants and animals that we associate with the Neolithic were not free-standing cultural traits, then, as their reproduction was sustained by practices of husbandry and craft. At the same time, their adoption promoted other practices, of consumption and habitation, altering the ways in which people ate, exchanged goods, interacted in face-to-face situations, as well as their habitual patterns of daily and seasonal movement. So although the individual elements of the Neolithic way of life were not fixed, they were embedded in a network of practices, skills and understanding. Overall, the assimilation of their skills and practices would have brought about a change in the *texture* of everyday life.

The conception of the Neolithic as an entity composed of traits that are independent of their social context is especially problematic when we come to consider portable artefacts. Models of cultural diffusion embody the view that artefacts are the physical expression of an idea. That is, they represent the imposition of a pre-existing mental template onto matter (Ingold 2000: 340). If ceramic vessels are one of the most characteristic artefacts of the European

Neolithic, they comprehensively refute the notion that abstract form is stamped onto inert substance. The making of pots involves an artisan in a physical engagement with clay and tempering materials, out of which the form of the vessel emerges. In order for this to happen, the potter has to submit herself to the qualities of the materials, and work in sympathy with them (Ingold 1996: 16). For aceramic groups to have taken up the manufacture of pottery, it was not the abstract idea of the vessel that needed to be adopted, but the embodied discipline of the potter's craft. Once again, this is not a matter of the transmission of a set of conceptual templates, but of inculcation into a new set of practices of engagement, which would have required sustained social interaction rather than episodic exchanges between Neolithic and Mesolithic groups. Ostensibly, this means that the transfer of skills between communities is a considerably more complex process than is often imagined, and this might discourage an emphasis on the indigenous acquisition of Neolithic technologies, as opposed to the spread of material culture by folk migration. But the alternative is to say that it requires us to be more specific about the mechanisms through which this acquisition took place.

The earliest appearance of pottery vessels in Eurasia dates back to the eleventh millennium BC or even earlier, in China and Japan (Aikens 1995: 11; Kaner 2010: 95). These first pots were unrelated to agriculture, being made by hunter-fisher-gatherers such as the Jomon of south-west Japan. Potting enables multiple containers to be made at once, using a technology that was already ancient and widespread, as demonstrated by the Palaeolithic clay figurine at Dolní Vestonice (Gamble 1999: 389). Although the demand for such a container technology might emerge where appreciable quantities of a storable foodstuff were available seasonally, and were collected as part of a broad-spectrum subsistence pattern, pots often seem to have been produced in the first instance as a means of storing and serving special foods (Rice 1999: 12). While pottery has often been presented as an integral part of a Neolithic package, ceramics are unlike agriculture in having developed independently in several areas of the Old World. In North Africa, pottery was made from around 9000 BC amongst semi-mobile people in the southern Sahara (Close 1995: 23). In south-west Asia, the first use of ceramic vessels post-dated the beginning of the Neolithic, even though baked clay artefacts such as figurines had been made for some considerable while (Moore 1995: 46). The implication of this is that pottery-making and farming were only in some cases introduced into particular regions alongside each other, and that they may have overlapped and intersected in different ways on numerous occasions (Gronenborn 1998: 190–1, 2010: 541). The means by which they passed from place to place and person to person were not identical.

THE DIVERSITY OF EUROPEAN MESOLITHICS

Thus far, we have been laying a good deal of stress on the heterogeneity of the Neolithic societies that developed in different parts of Europe, but it is equally important to recognise that the Mesolithic groups that preceded them were by no means uniform. The European Mesolithic encompassed both broad-spectrum hunter-gatherers operating at low densities, with generalized microlithic

technologies, and more specialized hunters and fishers, who often concentrated their efforts on a single species (Zvelebil 1986: 17). However, where specialization did occur, it was often focused on species that were unsuitable for domestication, such as fish or deer (Hayden 1990: 33). This is one reason why, although Mesolithic regimes of hunting and gathering were highly successful, they did not independently transform themselves into agricultural systems. Rather than a prelude to domestication, some Mesolithic populations are better understood as pursuing trajectories that would make farming less likely. As we saw throughout Chapters Two and Three, the intensity of Mesolithic occupation in Europe was extremely variable, and it has often been argued that the speed of Neolithic expansion was slowest where hunters and gatherers were most numerous (Pinhasi, Foley, and Lahr 2000: 54). None the less, while areas such as southern Scandinavia and coastal Brittany stand out as having been densely settled, we have noted that in other regions there is a tendency to underestimate the extent of the Mesolithic presence (Zvelebil 2002: 382). This can often be attributed to regional research traditions that have neglected hunter-gatherer archaeology. As well as the absolute numbers of hunter-gatherers concentrated in different parts of the continent, Mesolithic diversity was also manifested in the use of pottery by some groups, mobility patterns and degrees of attachment to place, the treatment of the dead, the intensity of exchange relations, and the extent of evidence for conflict, social inequality, and feasting.

These issues of Mesolithic diversity are often linked to arguments concerning 'complex hunters', which we have seen raised especially in the case of southern Scandinavia. There is certainly a tendency in the literature to link complex or specialized hunters with social competition, so that status differences are fostered by a changing division of labour in subsistence practice (Hayden 1990: 35). Similarly, in a way that recalls Sauer's arguments, it is sometimes claimed that complexity and specialization amongst hunters will lead to the adoption of agriculture, if suitable species are available. The problem with such arguments is that they tend to bundle economic intensification, social inequality and sedentism together to create a single vector of 'complexity' (Warren 2005: 74). Like 'affluent forager' arguments, complex hunter models tend to place different societies into archetypal categories, and minimise both diversity and change through time (Kim and Grier 2006: 198). By implication, hunting and gathering societies can all be placed on a continuum from simple to complex, and in the European Mesolithic those that were closer to the 'complex' pole were nearer to becoming Neolithic. It would follow from this that the Neolithic should be understood as inherently more complex than the Mesolithic, an argument that does not stand too much scrutiny.

For a series of reasons, rather than changing seamlessly into farmers, hunter-gatherers might sometimes resist the structural transformations that would accompany the adoption of economic and cultural novelties. Several of the individual aspects of a Neolithic way of life are potentially inimical to the cardinal assumptions of a hunter-gatherer way of life: mobility, sharing and generalized reciprocity, social equality, and equal access to livestock (Leacock 1982: 159). The emergence of greater social inequality would certainly require the liquidation of the mechanisms that maintained these elements (Patterson 2004: 72). However, it is by no means clear that all of the phenomena associated with the Neolithic would have been

equally attractive or unattractive to all members of a hunter-gatherer community, or that all Mesolithic societies would react in the same way to contact with new species and artefacts. It is far more likely that there would be internal debate and even conflict within hunting groups (Hayden 1995a: 279). The outcome of this process would be difficult to predict. Some people might identify domesticated animals, polished stone tools, or pottery vessels as means of achieving personal social advantage in the short term. But they might equally resist settling down, for example. Where contact took place between Neolithic and Mesolithic groups, then, the adoption of innovations by the latter might be expected to be subject to a kind of 'filtering', rather than the straightforward transfer of an integrated package. The character of this filtering would vary to a great extent depending on the differences that we have already identified amongst Mesolithic groups: social relations, population density, subsistence practice, and so on. However, it is to be emphasised that the piecemeal adoption of Neolithic traits is quite distinct from 'becoming Neolithic', which involved a thorough social transformation, in which non-human entities became integral to the practices of everyday life and social reproduction.

THE 'NEOLITHIC FRONTIER'

If the spread of domesticates and Neolithic material culture was not achieved exclusively by folk migration, and indigenous hunter-gatherers in some cases acquired stock, materials and skills from established Neolithic groups, some form of contact must have taken place. If, on the other hand, an appreciable portion of the Neolithization of Europe did involve the physical relocation of farming communities, they must have entered landscapes that were (however intermittently) frequented by Mesolithic people. On the face of it, this means that some form of boundary or frontier must at times have existed between the Neolithic and Mesolithic world. Of course, the extent to which such a boundary would have been recognized as being of any significance is not certain. The differences between populations pursuing separate economic strategies are often considered to be less important than those between ethnic groups or tribes, for instance (Hodder 1982a: 88). However, the presence of material culture differences superimposed on distinct subsistence regimes suggests that the distinction between Mesolithic and Neolithic people was, in some cases, one that would have been acknowledged (whether at the group or the inter-personal level). The notion of an 'agricultural frontier' was first explicitly addressed by John Alexander (1978), who drew a useful distinction between situations in which the frontier was expanding, and a static boundary. While the continuous expansion of agriculturalists into the continental heartlands might bring about disruption and displacement, a stable frontier would be more likely to establish reciprocal relations between farmers and hunters, as well as patterns of clientage or absorption (Alexander 1978: 25). Explicitly comparing Neolithic Europe with the expanding frontier of historic North America, Alexander proposed that specialized hunters and trappers might have developed in the 'frontier zone', exploiting the trade opportunities provided by contact with settled communities (Alexander 1978: 15). More recently, Fiedel and Anthony (2003: 146) have built on these ideas, arguing

that a marginal frontier population might have circulated information and acted as scouts for Neolithic settlers.

However, it is arguable that the use of the American West as an analogue (a 'Cowboys and Indians' model) has had some detrimental effects on our perception of Neolithic Europe (Verhart 2000: 17). In the first place, the American frontier process was driven by a series of factors that were not present in prehistory: the explosive urban populations of the Old World; European mercantilism and its demand for raw materials and exotic goods; capitalist economics; the colonial aspirations of European nation-states and the subsequent emergence of the United States; Christian missionary activity (Usner 1992; Wagner 1998). Above all else, the American colonial encounter was a deeply unequal one, in which colonists with access to the products of industrial technology and the support of state institutions were engaged in the expropriation of the lands and livelihood of tribal people. In Mesolithic-Neolithic Europe the populations involved were all stone tool users, many of whose social practices were broadly comparable (Zvelebil and Lillie 2000: 61). It is therefore not helpful to present the spread of agriculture across the continent as an inexorable and inevitable process, determined by the inherent superiority of one participant (see, for example, Rowley-Conwy 2004a: 97). Moreover, as Borić (2005b: 97) has trenchantly argued, it has been common for the spatial frontier between Mesolithic and Neolithic to be built up into the boundary between savagery and civilization, or culture and nature, so that it becomes a fundamental divide between utterly different forms of humanity. This, again, is the result of imposing abstract stages of evolutionary development onto the past.

It is possible, though, to understand Mesolithic-Neolithic frontiers in an entirely different way. We have seen that in a swathe of country from northern Poland across northern Germany and into the Low Countries, distributions of shafthole adzes and perforated wedges document the exchange of goods between the LBK and their successors and Mesolithic groups. Equally, the escalation of hunting for fur-bearing mammals in Southern Scandinavia in the later Ertebølle demonstrates the other side of this relationship (Zvelebil 2004a: 49). In the subsequent TRB phase, it has been argued that both Mesolithic and Neolithic elements were synthesized in the formation of a new cultural pattern (Nowak 2006). Rather similar sequences (at different times) have been identified in the Hungarian Basin, where Bánffy (2004a) argues that Mesolithic-Neolithic interaction in the Balaton area paved the way for the emergence of the LBK, and in the development of Cerny in northern France (Scarre 2003). In each case, the existence of a stable 'frontier' over an appreciable period of time preceded the emergence of a hybrid cultural formation. We have already argued that one reason for this is that the transfer of skills between communities required the explicit evaluation of practices that were normally habitual and unconsidered. This kind of explication and appraisal of cultural practice is particularly likely to occur in areas of interaction between societies that are different in character. But in addition to this, post-colonial studies have emphasized the way that contacts between socially distinct communities may give rise to new cultural forms, which are not identical to those previously used by either participant (Gosden 2004: 172). We have suggested that the development of funerary monuments such as earthen long barrows and megalithic tombs can best be understood in these

terms. This provides another reason for questioning the notion of cultural transmission, because this process is not one in which the cultural traits of one community are simply replicated by another. On the contrary, new patterns were being 'found in translation', and both parties are transformed by the encounter. This pattern of hybridization and recontextualization, in which the constituent elements of the Neolithic were repeatedly re-evaluated and recombined, provides a further challenge to the image of a Neolithic package that passed from one end of the continent to the other substantially unchanged. 'Neolithic frontiers' are best understood as zones of creativity and hybridization, in which the interaction between Mesolithic and Neolithic groups resulted in the repeated reinvention of the Neolithic, and its 'splicing' with elements drawn from the indigenous practice of various regions.

This is not to say that the effects of contact need everywhere have been positive. It has been argued that in some situations where interaction between farmers and hunter-gatherers began as mutually beneficial cooperation, the eventual outcome was the disruption of established Mesolithic social and economic patterns (Zvelebil 2001: 7). This in turn might provide further mechanisms for the adoption of agriculture by indigenous groups: the need to replace practices that had been compromised through contact, or the need to compete with farmers into whose ambit the hunters had been drawn (Zvelebil and Lillie 2000: 82). This argument effectively requires that Mesolithic and Neolithic groups had become quite tightly enmeshed in reciprocal relationships, and it is less likely to apply where contact was more sporadic, as in the cases of Britain and Ireland. Another potentially negative aspect of frontier relations is aggression and violence. We have seen that there is abundant evidence for conflict in both the Mesolithic and the Neolithic in Europe: in southern Scandinavia, Germany, northwest France, and the Danube Gorges (Thorpe 2000; Roksandic et al. 2006; Schulting and Fibiger 2012: 7). There is little doubt that violence was a sporadic if not endemic fact of life throughout the period. Yet it is notable that for the most part the evidence documents the killing of Mesolithic people by other Mesolithic people, or of Neolithic people by other Neolithic people. Given that stable 'frontiers' existed for very long periods of time, it is remarkable that there is so little conclusive indication of fighting between hunters and farmers. We have noted already that conflict of this kind is rare in the ethnographic record, and this may be related to the role of violence in many non-western societies as a form of 'negative reciprocity' (Sahlins 1972: 202; Rosaldo 1989: 18). Engaging in aggressive acts against others (warfare, head-hunting, cattle-raiding, taking captives) is often understood as the polar opposite of gift-giving: it establishes or maintains a particular relationship of enmity between persons, which is a social relationship. As a result, quite specific forms of socially-sanctioned conflict may present themselves as legitimate ways of settling disputes with particular people, often depending on their kinship distance from oneself (Chagnon 1968: 118). We know that the exchange of goods took place between hunters and farmers in prehistoric Europe, but did this mean that they recognized each other as kin? Or did people have to be part of a particular kind of social world before it was appropriate to fight with them? Alternatively, did the interests of people who engaged with plants, animals and landscapes in entirely different ways overlap to such a limited extent that they did not understand themselves to be in competition?

A further contrast between Neolithic frontiers in Europe and the colonial frontier in North America lies in the question of disease. It is well known that the inroads made by European settlers into the Americas were facilitated by the susceptibility of Native Americans to Old World diseases, such as smallpox, typhus, diphtheria, measles, and influenza (Diamond 1999: 195). It is possible that new diseases were generated by the greater proximity between humans and other mammals that was afforded by domestication in south-west Asia, enabling bacteria and viruses to 'jump species'. Unfamiliar illnesses might thus have been introduced into Europe by agricultural migrants at the start of the Neolithic (Holtby et al. 2012: 207). However, American and European populations had been genetically isolated from each other for thousands of years by the time of colonization, while we have seen that the movement of Neolithic farming people into new regions of Europe was generally foreshadowed by prolonged contact and exchange. While the initial introduction of agriculture into Europe may have been associated with population movement, there is little indication that European and western Asian societies had been entirely isolated from each other prior to this. Why, then, should the impact of these pathogens have been any more severe amongst Mesolithic people than amongst the Neolithic farmers themselves? In some cases, as in both Atlantic Portugal and Eastern Europe, Neolithic enclaves were established in close proximity to Mesolithic groups who continued to exist much as they had done for centuries afterwards, without any indication of catastrophic population decline. It is therefore highly unlikely that the expansion of agricultural settlements across Europe was matched by a pattern of indigenous hunters succumbing to imported maladies (Bellwood 2005: 67).

CHANGING PATTERNS OF NEOLITHIC ECONOMIC PRACTICE

We have argued that the aspect of the European Neolithic that can be most satisfactorily understood as a 'package' or interconnected set of innovations was the range of domesticated plants and animals introduced to south-east Europe during the seventh millennium bc. These were the outcome of protracted alterations in the relations between people, plants and animals played out over the tenth and ninth millennia in the Levant and the Southern Taurus, before an integrated farming system crystallized and was transferred to Anatolia and Cyprus (Colledge, Conolly, and Shennan 2004: 41; Tresset and Vigne 2007: 189). Wheat and barley, flax and pulses, cattle, pigs, sheep and goats formed a distinctive assembly, which in some cases accompanied human settlers into new regions. Although these various species entered Europe through the Balkans, and progressed gradually toward the Atlantic façade, it would be a mistake to imagine that their relative importance remained unaltered throughout. A compelling argument has been made that the very earliest farmers in Europe, many if not all of whom were colonists from western Asia, practised a form of household-based subsistence agriculture which emphasized the cultivation of cereals and pulses in small fixed plots. In this system, domesticated animals (principally sheep and goats) were

few in number, and subsidiary to horticultural activity (Halstead 1996: 304). If this way of life had developed in the first instance as a way of accommodating the material conditions of the Near East, it is unsurprising that migrants who entered broadly similar landscapes would have done little to alter it. But conversely, once the spread of the Neolithic began to involve indigenous people in various ways, and once domesticated species were introduced to temperate environments, it is to be expected that some change might occur. While it has been maintained that intensive household horticulture is a highly effective means of providing subsistence (e.g. Bogaard 2005: 179), the priorities that guide the procurement of foodstuffs are invariably social, and are rarely restricted to rational efficiency alone. It is equally argued that the agro-pastoral package came to be widely dispersed across the European continent because the closely-integrated combination of cereal crops and small stock came over time to be supported by an increased investment in architecture and material culture, which overcame the social problems associated with sedentism and shared investment in productive resources (Halstead 2011: 144). But it is questionable whether the European Neolithic was as homogeneous as this view would imply. The evidence presented in Chapters Two and Three suggests that the various elements of the Neolithic were put together in radically different ways across the continent. The argument proposed here will be that in different parts of Europe, people realized the potential of domesticated species in different ways, and in particular that hunters and gatherers would have been more attracted to the acquisition of livestock than to becoming horticulturalists. The horticultural regime of south-east Europe was a subsistence economy, but over and above this livestock offer the possibility of a *wealth* economy.

As we have seen, debates on changes of economic activity in Neolithic Europe have often concentrated on the notion that agro-pastoral farming and hunting and gathering are incompatible, so that the shift from one to the other is generally an 'all of nothing' affair (Rowley-Conwy 2004a: 97). While it is often acknowledged that it is possible to switch back and forth between agriculture and food collection (Bellwood 2005: 82), it is none the less maintained that the two cannot be combined. One reason given for this is connected with scheduling conflicts: wild and domesticated plants generally need to be harvested at the same time in the year, so that labour must be concentrated on one or the other (Bogaard 2004: 52). This would seem to neglect the obvious point that not all members of a community need be doing the same thing at the same time, and a division of labour is usually present in any society. Combining wild and domesticated food sources might be a means of spreading the risks of crop failure, or of accumulating storable foods that can be consumed at times of seasonal shortage. An additional argument is proposed by Rowley-Conwy (1986: 28), who suggests that different economic patterns are not equally viable from an evolutionary-ecological point of view. Efficient systems are more likely to survive in the long term, because they will have been selected between by prevailing ecological conditions. Thus a 'hybrid' subsistence system would be unlikely to be maintained. The fallacy of this view is that, while the environment may set the ultimate parameters for what is possible in economic terms, patterns of hunting, herding, collecting and cultivation are actually chosen by human beings in the pursuit of socially-defined advantages (see Ingold 1980 for a sustained demonstration of this argument).

'Efficiency' is always relative to the objective that is being pursued. Bellwood (2005: 27) is emphatic in his view that the two systems cannot be mixed, yet his own data for New World societies show appreciable numbers depending on agriculture and herding for 36 to 65 per cent of their subsistence (2005: fig. 2.4). Zvelebil (2004: 187) acknowledges that the perceived difficulties may be less significant where livestock herding is combined with the exploitation of wild plants, and elsewhere contemplates the possibility of an inter-community division of labour, where foodstuffs are exchanged between groups pursuing different economic strategies (Zvelebil 1996: 326). The mixing of domesticated animals with wild plants might therefore have been more common in areas where the former were adopted by indigenous communities, as opposed to amongst the fundamentally horticultural groups of south-east Europe. In general, archaeologists seem reluctant to contemplate situations where there is such diversity of economic practice: all of the communities living in a particular region and using a particular artefactual assemblage are presumed to have shared the same way of life. This represents a variation of the 'society in microcosm' model that Meskell (1996: 6) complains of: all members of a past culture are identical manifestations of an idealized whole. And as we have already argued, the insistence on economic homogeneity may be an unacknowledged inheritance from unilinear evolution: different developmental stages cannot coexist, and hunting and farming are still implicitly understood as separate rungs on the ladder of complexity. However, our discussion of the Swifterbant group in Chapter Three demonstrated that in at least one part of Europe there is incontrovertible evidence for aspects of agriculture being incorporated into a broad-spectrum economy. It is an open question how widespread this kind of pattern may have been.

Although the introduction of the LBK into central Europe is likely to have involved a combination of folk movement (perhaps 'leapfrog' migration) and the recruitment of indigenous people, there are strong indications that farming practice here differed from that in the Balkans. Cattle and pigs became more numerous than sheep, and the former were probably seasonally grazed in upland pastures remote from the main settlements. Changing ecological conditions had a role in this process, but they were not the only factor involved (Halstead 1989: 25). For it demonstrates not simply that different species had come into favour, but that the balance between livestock and arable had shifted decisively, with animals being too numerous to be grazed year-round in the vicinity of horticultural plots and domestic dwellings. Owning large numbers of cattle in particular, rather than small numbers of ovicaprids, would have meant that the quantities of meat that LBK communities had at their disposal would have been incomparably larger than Balkan Neolithic groups. It is arguable that this represented the beginning of mobile wealth in prehistoric Europe. Related to these differences in livestock management are more subtle distinctions in the crops being grown. Pulses, for instance, were more common in the Balkans than in central Europe, and this may have been less related to environmental factors than the relative paucity of meat in the Neolithic diet in Greece and Bulgaria (Kneutz et al. 2005: 253).

All of the major stock animals were introduced to Europe at the start of the Neolithic, but the patterns of their dispersal and their subsequent histories are slightly different. It is unlikely that there were any sheep or goats on the continent in the post-glacial era (Rowley-Conwy 2003b: 99), and this indicates that all small

stock in later prehistoric Europe were the descendants of animals introduced from south-west Asia. Mitochondrial DNA analysis suggests that all of the maternal lineages for domestic cattle in modern Europe also have a Near Eastern origin (Bollongino et al. 2006: 155). Even the cattle in Hungary, which Bökönyi (1974: 111) claimed had been independently domesticated, seem to have sprung from the same source (Rowley-Conwy 2003b: 114; Bollongino and Burger 2007: 184). However, Y-chromosome studies on the same modern populations indicate a contribution to the gene pool from male aurochs, particularly in northern Europe (Götherström et al. 2005: 2345). This might mean that domestic stock were being deliberately inter-bred with wild, or more likely that on rare occasions aurochs bulls had impregnated cows that had been grazed in open pasture rather than paddocks. The situation with pigs is different again, in that although animals of Near Eastern origin were introduced into Europe, and apparently dispersed by the LBK expansion, European wild boar also appear to have been domesticated. This domestication may have occurred in a number of different areas, and may have been truly independent or a consequence of the arrival of south-west Asian stock (Larson et al. 2007: 15277). Interestingly, the locally domesticated pigs effectively replaced the Near Eastern ones during the fourth millennium BC.

It is difficult to separate the role of livestock as providers of human sustenance from their social significance, particularly once we have argued that domestication is essentially a social relationship between people and animals. Meat, milk, and blood can contribute to everyday diet, but even then the practices of milking, bleeding, slaughtering, and the distribution of animal products are embedded in social relations, which they reproduce and reaffirm. Unlike plant foods or fish, the meat of the main domestic mammals is only accessible in fairly large portions, which means that it will tend to be consumed discontinuously, by comparatively large groups of people (Halstead 2004: 156). Being both tasty and highly nutritious, mammal meat is well suited to being used as a feasting food. Hayden (1990: 32) argues that feasting will have been the main factor behind the adoption of farming worldwide, and while this is probably an overstatement the provision of meals as a means of securing social advantage was undoubtedly significant throughout the European Neolithic. Having said that, feasts can be of different kinds, and their implications vary. Communal eating can be a means of integrating societies and forming alliances (Hayden 2001: 58). Meals can also be used as an inducement to stimulate collective activities such as harvesting, organized violence, or the construction of public works (Hayden 1995a: 292). Feasts can celebrate collective achievements, or they can be a means by which prestige is built up and indebtedness created (Friedman 1975: 170). The more that feasting is concerned with display, conspicuous consumption, and prestige-building, the more wasteful feasts will tend to become. Feasting one's neighbours can be a way of gaining their support in future times of hardship, but 'diacritical' feasts may be shared exclusively amongst an elite community, as a means of distinguishing them from the commoners (Hayden 1992b: 129). Feasts can both mark and reproduce the differences between persons of different statuses, age-grades and genders (Dietler 2001: 91). Not all the feasts in Neolithic Europe were similar to each other, and their variation tells us much about the differences between Neolithic societies.

In south-east Europe, Early Neolithic societies took the form of stable village communities similar in some ways to those of the Near East. In these dense

settlements, characterized by intense face-to-face contact, individual households were enmeshed in relations of cooperation, conviviality, and competition, occasionally needing to seek aid in the form of labour or food, but also seeking to achieve local social advantage. In these circumstances, sporadic feasts hosted by households would be based on the small numbers of sheep and goats being kept, and would attract relatively limited numbers of people (Halstead 1999: 90). Halstead (1989: 40) emphasizes the role of village cooperation and hospitality as a means of insuring against the everyday risks of intensive horticulture: illness, spoilage of grain, pests, and animal attack. In central Europe these factors would have been overshadowed by adverse climatic conditions which affected entire regions rather than individual plots, and dispersed households would have less to gain from cooperative strategies. Yet, as we have seen, the evidence suggests that feasts actually increased in scale in the LBK of central Europe (Marciniak 2005: 205). The emergence of large, mobile herds of cattle not only provided a buffer against crop failure on a regional scale, but created a form of social capital that could be 'cashed in' to feed hundreds of people at a time. This argues for an increasing elaboration of public performances and gatherings, which could both sustain links between more dispersed communities and provide opportunities for generating debt, fame, or social advantage. Although the Neolithic societies of central and western Europe were not as densely concentrated as those of the Balkans, it may be that the scale of the collectivities involved was greater. Rather than social action being circumscribed at the level of the household, groups that we might recognise as clans or tribes may have become more significant. It follows that social life would have taken on a different character. Tell societies were based around the largely co-present domestic group, but in temperate Europe Neolithic communities had a more punctuated temporal profile. Larger numbers of people came together at particular times of year, while some people at least accompanied cattle to seasonal grazing areas. Feasting and ceremonial activities had a focal role in coordinating and integrating this more discontinuous and cyclical form of sociality.

The shift from ovicaprids to cattle as the Neolithic spread north and west is of critical significance to both the character of Neolithic societies and the changing relationships between farmers and hunters in temperate Europe. Cattle locate social capital in a dense mass of corporeal matter that can be controlled and monitored in a way that wild species cannot. They represent, in effect, a mobile storage of enhanced social interaction. Cattle can be consumed in feasting, killed in sacrifices, or given as bridewealth, blood-price, or loans to clients and cattle-friends, enhancing relationships and spreading risk (Russell 1998: 45). Moreover, if not consumed they will increase in number, an increase that is only limited by the number of herders available to tend them. Cattle are more amenable to domestication than deer, being non-territorial and having a more consistent herd structure (Rowley-Conwy 1986: 26). While Mesolithic people would have been intensely familiar with aurochs and with red deer, the sharing mechanisms that are adhered to in many hunter-gatherer societies might have provided a major disincentive to indigenous domestication (Wiessner 1996: 179). Hunters often profess to a passionate desire for meat, yet the imperative to distribute it amongst the whole community makes it difficult to accumulate live animals (Russell 1998: 49). There is thus a potential tension in hunter-gatherer societies between the desire of some people to acquire livestock and thereby achieve wealth

and status, and a recognition that the sharing of meat is an important means by which disputes are overcome, alliances secured, risk negated and relationships maintained (Wiessner 1996: 175). It is possible that contact and association with communities that already possessed herds might have the effect of tipping the balance in favour of developing a reliable, sustainable source of meat. As we have seen with Mlekuz's study of the Neolithization of Dalmatia (2005), it may be that Mesolithic groups were drawn into the ambit of Neolithic settlers by the acquisition of domesticated animals: first simply for consumption, later accumulating their own herds. On the face of it, there is much more to attract hunter-gatherers to exotic sources of meat (and the social benefits that it could provide) than to becoming a horticulturalist. In some cases it is possible that this might be achieved through the mechanism of clientage, where farmers would lend cattle to hunters, who would herd and protect them in exchange for their products and offspring (Russell 1998: 45; Barker 2006: 405). Over time, clients might create their own herds, and become pastoralists. This kind of process might have been involved in the absorption of Mesolithic people into LBK communities, for instance.

Recent studies of prehistoric diet in north-west Europe based on stable isotopes in human bones have sometimes been glossed as showing the replacement of a Mesolithic marine-based diet by a mixed farming regime (Schulting 1998: 213; Richards and Hedges 1999). But the principal change is that Neolithic diets were less variable than Mesolithic ones, and that they are generally wholly terrestrial, rather than combining foods from different sources (Richards and Schulting 2006: 448). In most regions where studies have been conducted, the quantities of animal protein that were consumed increased in the Neolithic (Dürrwächter et al. 2006: 46). Although this result could be derived from the universal adoption of agro-pastoral farming, it is equally compatible with the acquisition of domesticated livestock by indigenous communities, obviating the need to seek protein from the sea, and altering mobility patterns to some extent. These arguments can fruitfully be placed in the context of recent discussions of dairying in the Neolithic. Traces of dairy lipids on pottery sherds have indicated that some level of small-scale dairying took place in both Starcevo and Körös contexts in south-east Europe, yet the evidence is stronger further north and west (Craig et al. 2005: 883). By contrast, the -13.910°T allele, which correlates strongly with lactose persistence, is absent from human remains from Körös and LBK sites. This suggests that the earliest Neolithic populations in Europe were not lactose tolerant, and were unable to consume cow's milk (Burger et al. 2007: 3739). In the present day, lactose tolerance is more common in north-west Europe than elsewhere in the continent, and it is possible that the practice of drinking milk developed in this area (Tresset and Vigne 2011: 187). From the LBK onwards, large herds of cattle were kept, and as well as meat and blood, people will have begun to consume larger quantities of milk products (Russell 1998: 42).

HOUSES AND 'HOUSE SOCIETIES'

Discussing the subsistence practices of the Greek Neolithic, Paul Halstead (1992: 32, 1999: 89) evokes the 'Domestic Mode of Production' (DMP), a term originally

coined by Marshall Sahlins (1972: 41). Sahlins notes that in many societies practicing simple economic regimes (such as hunting and gathering, swidden farming, and garden horticulture), all of the labour, tools, skills, and resources necessary for production may be contained within a family or household. The division of labour is a simple one, based upon gender, and the investment in productive technology is generally low. While in the capitalist West, we are familiar with a drive to produce as much as possible in order to maximize profit, in the DMP the objectives of production are finite. People seek to produce enough for the livelihood of their own family, and no more (Sahlins 1972: 84). The labour input of the household economy therefore has a natural cut-off, and as a result labour is generally underused. Populations operate at levels well below the carrying capacity of their environments, and although households may cooperate with one another, they do so only in order to satisfy their own immediate needs. The DMP is therefore a 'structure of underproduction', characterized by the absolute autonomy of household groups (Sahlins 1972: 41).

Sahlins' DMP is an abstraction, however, and never actually exists in its pure form. This is because households cannot reproduce themselves without recourse to marriage relations with other groups, while drought, famine, and crop failure can be catastrophic for an entirely isolated social unit (Tomkins 2004: 40). The institutions of kinship, leadership, and ritual that extend across a wider society are not built onto family units that have a prior existence, and yet there is often a tension between the two levels of organization (Sahlins 1972: 96). Because of its limited objectives, the DMP is resistant to intensification, and Sahlins argues that any increased economic activity has to be imposed by wider social forces, such as exchange, status competition, obligations to kin, and institutionalized leadership (1972: 102). Sahlins suggests that the DMP has built into it a tendency toward spatial dispersal, not least because social units tend to resolve their disputes by fissioning. Paradoxically, the earliest Neolithic societies of Europe often formed themselves into dense village settlements whose long-term co-residence resulted in the formation of tell mounds. Halstead (2011: 144) argues that an increasing investment in domestic architecture, shared consumption and material culture over time charts the growth of a 'domestic ideology' which mitigated the growing tensions between domestic units. But rather than an *ideational* framework which either preceded or accompanied the introduction of horticulture, it may be that the houses, pottery and figurines were integral to a set of *social* relationships that enabled agricultural practice to take place. What Bailey (2005: 5) identifies as 'a new materiality' could be understood as the tangible aspect of a mode of existence which at once asserted the autonomy of household while holding its centrifugal tendencies in check.

In these terms it is important to think of the house not only as a unit of production and consumption, but as a social community who have collective claims to a body of property, and who share residence in a dwelling structure which serves as a physical reminder of their continuity with past generations (Helms 1998: 15). This is clearly the case with tell settlements, in which new houses were built upon, and incorporated the fabric of, earlier dwellings. The relationship that Sahlins identifies between the domestic unit and the wider society appears to have been skewed toward the former in the Neolithic of Greece and the Balkans. Leadership and ritual seem to have been weakly developed, and

feasting and the circulation of exotica may have facilitated inter-house collaboration and the exchange of marriage partners, but competition was limited in scope. One reason for this may be that an agricultural system based on cereals and pulses, and with only limited numbers of small stock, might reinforce the DMP's tendency toward underproduction. As we have noted above, this is a subsistence economy, with a limited capacity to support the trans-domestic mechanisms that Sahlins associates with the emergence of larger and more differentiated social formations. The integrated horticultural system that had been introduced from south-west Asia, perhaps largely by migrating populations, was supremely successful in keeping those communities alive. But it had a limited capacity to fuel social elaboration or to attract the participation of indigenous people.

It is for this reason that we can identify the emergence of the LBK in the Hungarian Basin as a fundamental transformation of the Neolithic. The constituent elements of the Neolithic way of life remained the same, but the relationships between them shifted irrevocably. We have noted already that in the LBK a continued pattern of garden horticulture was complemented by the development of larger herds of cattle, which were no longer closely tied to the settlement and the arable. The accumulation of cattle, as a medium of wealth that could be converted into prestige and influence as well as reducing the possibility of famine, was principally limited by the amount of available labour. Accumulation and competition were the stimuli for overcoming the DMP's underproduction. These changes were accompanied by a transformation of the status of the house. LBK houses rapidly increased in scale, while also taking on an exaggerated sturdiness. This suggests both that they were used by larger groups of people than the more lightly built houses of the Balkans, and that they had taken on an increased symbolic significance. It seems plausible that LBK households were not consanguineous nuclear families, but included extended and fictive kin. The isotopic evidence that LBK settlements were host to non-local personnel (Bentley 2007) suggests that indigenous people were routinely assimilated by the expanding LBK system, and it can be argued that the longhouses served as the physical manifestation of a community to which people could attach themselves. The continental homogeneity of the *Bandkeramik* assemblage represented a shared cultural framework that could readily assimilate persons of disparate origin. In the Atlantic zone, where the balance shifted from migrating agriculturalists to acculturated hunter-gatherers, the house was transformed again. While long mounds and megalithic tombs have often been described as 'houses of the dead', we have suggested that rather than being built primarily as a resting-place for the ancestors, these structures had much the same range of functions as the longhouses of the Danubian tradition, except that their monumentality was further enhanced, and people no longer lived in them. We will discuss these issues further in the British context in Chapters Nine and Ten.

CONCLUSION

In Chapters Two and Three the diversity of Mesolithic-Neolithic transitions in different parts of Europe were emphasized. In this chapter, we have drawn

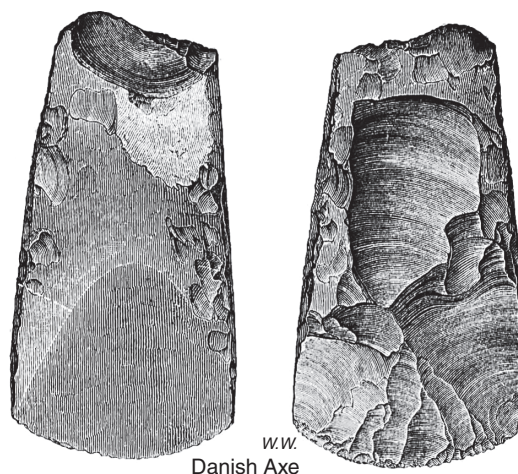
attention to the multiplicity of processes of human mobility and social interaction that were involved, and sought to reject any notion of the Neolithic as an undifferentiated wave of change and disruption, leaving behind uniform social and economic formations. Indeed, we have noted a widespread pattern in which the change from Mesolithic to Neolithic was prefigured by the existence of networks of long-distance contacts, so that transformation often took place in the context of established relationships. Moreover, the Mesolithic contexts into which Neolithic innovations were introduced were highly variable, often conditioning subsequent developments. Neolithic 'frontiers', which came into being where farmers and hunters were in contact over a protracted period of time, were not borderlands, but zones of interaction within which novel cultural patterns emerged. Where Neolithic practices were passed to indigenous communities, the process involved was not one of trait-transfer, but of inculcation into a series of skills, which may not have been entirely verbalized. All of this underlines the sense of a period in which difference and particularity were proliferating. Yet despite the 'mosaic' character of the European Neolithic transition, there are some trends and developments that can be identified at a higher level. The dense, stable villages of the Balkans were not replicated in the temperate zone, but replaced first by the straggling open settlements of the LBK, and then by more dispersed patterns. Horticulture supported by small numbers of sheep and goats gave way to larger herds of cattle, first alongside intensive cereal farming, later overshadowing it. Feasting ceased to be a small-scale activity engaged in by family groups, and took on a greater significance in larger but more dispersed communities. Folk movement, demic diffusion and leapfrog colonisation, common in the Mediterranean, became less so in areas with greater Mesolithic populations. Here, the sense of the Neolithic representing a fixed and bounded 'package', moved from place to place by migrant populations, was diluted. Indigenous peoples selected elements, and mixed them with aspects of their own heritage. Throughout Europe, what distinguished Neolithic ways of life from the adoption of individual traits was a transformation of social relationships which enabled access to animals and plants to be divided, and wealth to be collectively appropriated. These social relationships were embedded in material things in a variety of ways, which had the effect of rendering them durable, and capable of being reproduced across the generations.

The Neolithic Transition in Britain: A Critical Historiography

INTRODUCTION

The explicit discussion of the beginning of the Neolithic in Britain has been in progress for little more than a century, in which time a bewildering range of interpretations have been proposed. This chapter attempts to recapitulate and evaluate some of the principal contributions, not simply as a kind of background to contemporary debates, but as a means of revealing the derivation of arguments that may today be implicit or unacknowledged. The framework for the investigation was first established in Vere Gordon Childe's epochal surveys of Old World prehistory (1925, 1928, 1929), which together proposed a narrative of agricultural origins in the Near East, the transmission of a new way of life to Europe by migration and diffusion, and the emergence of barbarian societies. Despite this, it is important to appreciate that ideas about the introduction of the Neolithic into Britain were already in place when Childe was working, even if these were sometimes diffuse and inexplicit. The distinction between the Palaeolithic and the Neolithic had first been proposed by Sir John Lubbock, in his *Pre-Historic Times* (1865: 2). His principal criterion for discriminating between the two periods had been the polishing (as opposed to flaking) of tools of flint and stone, which, together with the occasional use of gold for ornaments, was exclusively found in the Neolithic (Fig. 5.1). None the less, in his discussion of the Swiss lake villages, Lubbock noted that domesticated cattle were present in small numbers during the Neolithic period (1865: 187). Fifteen years later, William Boyd Dawkins equally noted that agriculture 'and the invention of many useful arts' were characteristic of the Neolithic age, and that domesticated animals had been brought to Europe from elsewhere, probably Central Asia (1880: 229, 246). Yet it is clear that for both authors the introduction of new technologies and domesticated species is something of a subsidiary question, since for their generation of evolutionary archaeologists these innovations were simply reflections or symptoms of intellectual and social progress. Where Childe broke with his forerunners in British archaeology lay in synthesizing the Scandinavian and German culture-historic and typochronological approaches with elements of Marxism, to propose a view of culture as at once an expression of shared normative traditions and a means by which people transformed their own conditions of existence (Trigger 1980: 44). Unlike Lubbock or Dawkins, Childe could talk at once of 'Neolithic folk' and a 'Neolithic revolution'.

Fig. 5.1. A Danish polished flint axe, type-fossil of the Neolithic (from Lubbock 1867)



Another factor that coloured views of the inception of the British Neolithic was the understanding that colossal environmental upheavals had characterized the end of the Pleistocene (Dawkins 1880: 266), the same vicissitudes that Sigmund Freud (1915: 14) considered to have scarred the collective unconscious of human-kind. Although the chronological attribution of ‘pygmy flints’ (microliths) was debated, a thorough understanding of the Mesolithic was slow to develop, and it was widely believed that Europe had been unoccupied for a period following the end of the Palaeolithic (Kendrick 1925: 169). As Dawkins put it, Palaeolithic and Neolithic populations ‘belonged to two races of men, living in Europe in successive times, and separated from each other by an interval’ (Dawkins 1880: 266). The arrival of the Neolithic could therefore simply be understood as the re-occupation of the continent in the post-glacial, and the point that the migrants brought pottery, polished stone tools, and domesticated plants and animals with them was of lesser significance. As we will see, this picture of Neolithic migrants entering an abandoned landscape is one that continues to appeal to some archaeologists today, with Mesolithic communities apparently having been wiped out by famine or disease. Alternatively, it was sometimes proposed that surviving Palaeolithic people might have retreated before the oncoming settlers, or have been driven northwards by changing climatic conditions, following species such as reindeer (Dawkins 1880: 306). William Sollas (1911: 382) proposed a revealing version of this argument, in which each of the different peoples of the Old Stone Age in Europe (Mousterian, Solutrian, Magdalenian) had been ‘expelled and driven to the uttermost parts of the earth’, surviving as the Australian aborigines, Kalahari Bushmen, and Eskimos respectively.

The surviving races which represent the vanished Palaeolithic hunters have succeeded one another over Europe in the order of their intelligence: each has yielded in turn to a more highly developed and more highly gifted form of man. (Sollas 1911: 382)

So, in a rather more extreme way than Lubbock or Dawkins, Sollas presents the change from Palaeolithic to Neolithic as a manifestation of successive stages of

progressive evolution. These ideas based around social or cognitive stages of development were to remain dominant for some while, although they were leavened by a growing concern with the way that agriculture might facilitate population growth, sedentism, and craft specialization (Burkitt 1925: 158). However, these were still generally understood as the characteristics of a higher form of human existence, rather than the means by which the latter had been achieved. A further complication had been introduced by anthropometric studies of human remains from long barrows and chambered tombs in Britain (Rolleston 1877: 635), which had generally arrived at the conclusion that Neolithic populations were 'Iberic' in physical type, and must originally have arrived from the western Mediterranean (Vulliamy 1925: 135). This produced the confusing picture of a 'higher civilization' having been introduced from outside of Britain, manifesting itself in megaliths, decorated pottery, herding and cultivation, polished stone tools, and flint mining, but representing the outcome of a series of confluent migrations (Kendrick 1925: 172; Vulliamy 1925: 130).

The specific views of Sollas, Dawkins and Vulliamy need to be understood in the context of a deeply seated conviction that prehistoric change was principally caused by the movements and migrations of successive populations, or by diffusion from a dominant cultural hearth. Both the classical and Biblical traditions had incorporated the notion of human decline and degeneration following a 'golden age', and its implication that human beings will revert to savagery if they are not subject to civilizing influences or divine grace. Devolved populations or 'human fossils' representative of earlier stages of evolution are unlikely to progress through their own efforts: as Lord Raglan later remarked 'no savage ever invented anything' (1933: 101) and 'no people can ever civilize itself' (1946: 40). Consequentially, when change occurs in regions occupied by savage peoples this must be attributed either to their transformation by external influences or their replacement by more advanced populations (McNiven and Russell 2005: 100). The development of these ideas through the nineteenth century was influenced by the 'catastrophism' of Cuvier, Buckland, and Lyell (Harris 1968: 111). This proposed that the variety of different species found in the fossil record could be attributed to the successive creation and extinction of different suites of animals and humans, or by migration and displacement, rather than organic evolution. In the same way, sequences of prehistoric cultural change were often understood in terms of the replacement of indigenous peoples by consecutive waves of invaders, each prevailing owing to its superior cultural and intellectual equipment, in much the way that Sollas had described. McNiven and Russell (2005: 102) demonstrate the complicity of this mode of thought in western colonialism. Where undeniable traces of advanced cultural achievement were discovered in areas subject to colonial rule, as with Great Zimbabwe or the Woodland and Mississippian mounds of North America, they were routinely attributed to 'vanished races' of civilized people, who had been overwhelmed by savages: lost tribes of Israel, Phoenicians, or Vikings. This had the dual effect of denying the capacity of indigenous people to build culture, while undermining their indigeneity: they were merely one group of migrants amongst others. The latter served to legitimate the dispossession of Native Americans, Africans and Australians: white westerners were displacing them, just as they had displaced their predecessors. McNiven and Russell argue that the role of migration and

invasion as the master narrative of British prehistory reflects the same preoccupations: the strength and power of the British Empire demonstrated the beneficial effects of successive episodes of colonization in the formation of the 'island race'. Evidently, British colonists in Africa, Asia and the Americas were simply bestowing similar advantages on the native peoples of these areas (2005: 28).

Colin Renfrew (1967: 276) also noted the role of colonialist thinking in European prehistory, pointing out that advanced features such as copper metallurgy and megalithic tombs had originally been identified as 'anomalies' in western Europe, which had needed to be explained through the influence of east Mediterranean civilizations. Like migrationism, diffusionism promoted the impression of indigenous people as all but incapable of autonomous social and cultural change, although the extreme version of diffusion promoted by Elliot Smith, Rivers and Perry was based in a positive image of peaceful 'natural man' coerced into civilization by the warlike 'Children of the Sun' from the cultural hearth of Egypt (Stout 2008: 110). At an implicit level, both migrationism and diffusionism have fostered the understanding that the Mesolithic populations of Atlantic Europe were powerless in the face of the agricultural package and its socially and culturally superior bearers. At best they found themselves obliged to adopt new subsistence practices, and at worst they were displaced or annihilated by Neolithic invaders. Since it is beyond question that the various innovations of the Neolithic originated outside of Britain and Ireland, it is not surprising that orthodox prehistory has repeatedly defaulted to these narratives of folk movement and cultural dominance.

CULTURE HISTORY 1: VERE GORDON CHILDE

Gordon Childe's advantage over both his predecessors and his contemporaries lay in both his extensive familiarity with the material evidence of prehistoric Europe, and his sophisticated approach to theoretical issues (McNairn 1980: 49). He had travelled throughout the continent studying museum collections, and had developed an explicit understanding of what archaeological cultures represented, and of how they changed. For Childe, the material assemblages that are investigated by archaeologists were an expression of the social traditions of past human communities (Childe 1950: 2). The social group corresponding to an archaeological culture need not have shared a genetic inheritance, a language, or a political identity. Cultures owed their existence to the way that internalized conventions for making and decorating artefacts were passed between generations, principally in the course of a person's growth to maturity within the household. This process is characterized by extreme conservatism, so that cultural norms will tend not to be modified without good reason (Childe 1936: 30). The differences between cultures can principally be attributed to divergences between social traditions, but over and above this, cultures respond to external stimuli of various kinds, so that they become adapted to their geographical setting (Childe 1942: 28). None the less, their inherent resistance to change means that cultures display great continuity over time, and can thus be tracked over their spatial wanderings. Only where there is abrupt change from one cultural pattern to another should we

imagine that one group of people had replaced another, through some form of invasion (Childe 1950: 8).

Childe's engagement with Mesolithic archaeology was such that from *The Dawn of European Civilization* (1925) onwards, he rejected the notion of a post-glacial hiatus in the settlement of northern Europe. 'Epipalaeolithic cultures' had been present throughout, and yet there was an almost total cultural discontinuity between these people and the Neolithic colonists who had entered the continent from various directions (Childe 1925: 20). In opposition to Gustav Kossinna, Childe rejected the idea that a Neolithic civilization could have been spontaneously generated in Europe. Yet in the case of Britain alone, he initially emphasized continuities across the Mesolithic-Neolithic boundary, in the form of flint mines (considered to have been established in the Palaeolithic), 'lake dwellings' and Peterborough Ware, the latter supposedly comparable with the 'Forest culture' of the east Baltic (1925: 286). Later, he elaborated his account of Mesolithic Britain to include Epipalaeolithic survivals, waves of Tardenoisian immigrants, Azilian strandloopers in western Scotland, and Maglemosian 'forest folk' in eastern England (1940: 30). Partly because he was working with a compressed time-scale, and partly because of his propensity to see cultural entities as long-lived and stable, Childe often presented such cultural groups as existing alongside each other. Despite this, over time he increasingly came to see the pre-Neolithic occupants of Britain as few in number and geographically scattered.

In 1925, Childe was not inclined to see the beginning of the British Neolithic as attributable to any kind of influx of population. This was because at this point he emphasized megalithic tombs as the main aspect of Neolithic culture to have been introduced from elsewhere. The distribution of these structures along the western coasts of Wales and Scotland outlined a trade route between Iberia and Scandinavia, and it was from Spain and Portugal that itinerant venturers had apparently come, possibly bringing domestic animals with them (Childe 1925: 287). This conception of megalithic monuments as a distinct element, independent of other aspects of Neolithic culture, was to survive throughout Childe's career. However, a critical change had overtaken his views by 1931, when he and Stuart Piggott published two related papers in the *Archaeological Journal*, addressing the character of Neolithic pottery in Britain and its continental affinities (Childe 1931; Piggott 1931). Shifting his focus from architecture to ceramics, Childe argued that the Windmill Hill ware of southern Britain could be attributed to a Western Neolithic 'family' of cultural groups, and was quite distinct from east Baltic, Nordic and Danubian pottery traditions (1931: 38). The defining characteristic of Western Neolithic pottery was its 'leathery' surface, while the vessel forms suggested skin containers stretched on organic hoops (Fig. 5.2). Continental elements of the Western Neolithic complex included the Chassey and Michelsberg cultures, and the Breton Neolithic. While Windmill Hill pottery suggested connections with each of these groups, none of them possessed precisely the same range of features: megalithic tombs were found in Brittany, but not the leaf-shaped arrowheads and antler combs, which fitted better with Michelsberg. In turn, many of the vessel forms associated with Michelsberg were not represented in Britain (Childe 1931: 53). Accordingly, Childe concluded that the Windmill Hill culture was not derived from any one of the Western Neolithic cultures of

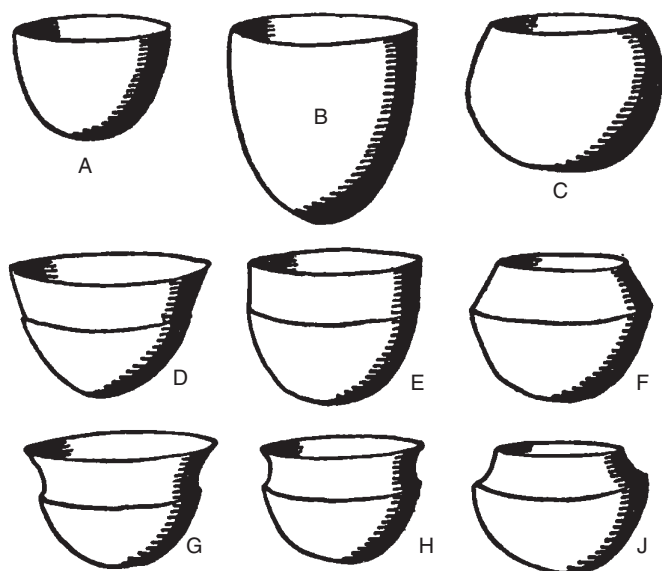


Fig. 5.2. Gordon Childe's drawing of Windmill Hill culture pot-forms (from Childe 1957, Fig. 151, page 324, with the permission of Taylor and Francis)

north-west Europe, but represented a 'parallel emanation' from an ancestral source in Iberia, which had swiftly taken on a distinctive insular character.

By 1940, Childe had reconciled the contradictory evidence for Neolithic origins in Britain by hypothesizing two distinct cultural processes at work. In the first place, southern Britain had been colonized by farmers from 'north-east Gaul', who settled the chalk country of Sussex and Wessex, avoiding the damp woodland of the clay vales (Childe 1940: 34). The arrival of the Windmill Hill agriculturalists was an extension of a process of expansion driven by rising population, the need for new pasture, and the exhaustion of agricultural plots, which spanned the Old World. Only in the rich valleys of the Nile, Indus, Tigris, and Euphrates had flooding enabled agriculture to be sustained over long periods, giving rise to urban civilization. The sudden appearance of a fully constituted farming economy, involving the use of exotic plants and animals, and the absence of Mesolithic elements at sites such as causewayed enclosures indicated the exogenous character of the Windmill Hill culture. Along with the other members of the 'great cycle of Western Neolithic societies', it could ultimately be traced back to its origins in Egypt (Childe 1940: 40). Once again, Childe was identifying not the transformation of cultural traditions *in situ*, but long trails of cultural inheritance stretching across continents. Megalithic tombs, however, had come to Britain by a separate route, brought from the Mediterranean by the fanatical adherents of a cultic religion, whose dedication in braving the long sea voyage was rewarded by their being adopted as chiefs and wizards by the Windmill Hill folk (Childe 1940: 47). The variations in architectural form between the various kinds of chambered tombs could thus be understood as the outcomes of religious schisms. Childe refrained from any speculation as to the content of the megalithic cult, but he

would have been familiar with arguments that proposed that Europe before the Bronze Age had been characterized by the worship of a Great Goddess of east Mediterranean origin (Hutton 1997: 93). Arguably, then, decades of debate over the far-flung origins of the megalith builders (e.g. McKie 1977) can be attributed to Childe's difficulties in locating a European origin for the Windmill Hill culture. The 'spiritual aristocracy' (Childe 1957: 328) who mobilized the farming communities to build temples and sepulchres are something of a *deus ex machina*.

While the Windmill Hill people were now established as continental migrants who had little or no contact with the indigenous Mesolithic population, the fate of the latter continued to exercise Childe. Although he had previously understood Peterborough Ware as an indication of the survival of Mesolithic traits within the mainstream of Neolithic culture, he now introduced a Peterborough culture, proposed as an equivalent to the East European Forest Neolithic. The transverse arrowheads, polished knives and maceheads of these people marked them out as the descendants of the Mesolithic folk (Childe 1940: 82). As with the megalith builders, it is arguable that this represented a way of rationalizing aspects of the evidence that were left unaccounted for by the narrative that was being put in place. Accordingly, these cultures were released into the literature.

CULTURE HISTORY 2: STUART PIGGOTT AND JACQUETTA HAWKES

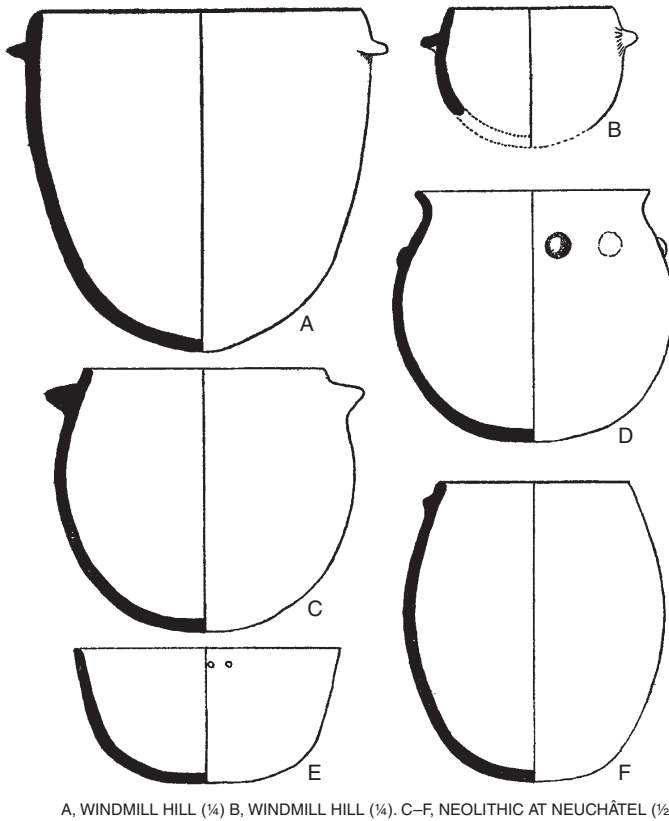
Stuart Piggott adhered to a view of cultural process very similar to that of Childe, in which the appropriate classification of artefactual assemblages gives the archaeologist a grasp of the composition of human communities that existed in the past (Piggott 1959: 81). Consequently, the successive accounts of the beginning of the British Neolithic that he presented over a period of some forty years worried away at two fundamental problems faced by any culture-historic approach to the issue. Firstly, as Childe had recognized, it was difficult to identify any single cultural group in continental Europe that possessed all of the elements found in the earliest Neolithic in Britain, and, secondly, several of the material assemblages that could be identified in Britain barely qualified as 'cultures' at all. In some parts of the country, the Neolithic was represented only by chambered tombs, associated at most with scraps of pottery and a few stone tools, while details of domestic architecture, mortuary practice, subsistence economy and other artefact types were very limited. Equally, the 'Secondary Neolithic Cultures' that Piggott considered to have been derived from native Mesolithic communities each possessed a distinctive style of pottery, but had overlapping stone tool assemblages (1954: 277).

Piggott's conception of the British Early Neolithic was formed to some extent by his experience of the ceramic assemblage from Alexander Keiller's excavations at the causewayed enclosure of Windmill Hill in north Wiltshire, which became the type-site for his primary Neolithic cultural group (Smith 1965). He early distinguished between a 'Neolithic A1' pottery, characterized by simple, undecorated, bag-shaped and sometimes lugged vessels, and a 'Neolithic A2', with

thickened and rolled rims, and decoration, on the basis of the Windmill Hill stratigraphy (Piggott 1931: 83). Piggott's analysis was innovative for its time, but subsequent work has shown that both the structural sequence at Windmill Hill and the development of Neolithic ceramics in Britain were more complex than this would allow for (Smith 1956; Whittle, Pollard, and Grigson 2000). The apparent simplicity of the earliest pottery from Windmill Hill convinced Piggott of its priority over the more elaborate material from Whitehawk in Sussex, while the presence of Windmill Hill pottery in round barrows in Yorkshire indicated that the culture had not arrived in the north until after the incursions of the Beaker folk (the supposed source of single grave burial practices) (Piggott 1931: 97). Therefore, in his 1931 *Archaeological Journal* paper, he argued that the users of Windmill Hill Ware had entered Britain in the region of the Hampshire-Dorset coast, and expanded northwards and eastwards. Piggott's willingness to emphasise the discontinuity between Mesolithic and Neolithic to a greater extent than Childe was enhanced by an investigation of the British flint mines, which concluded that despite the apparently 'Mousterian' character of some of the reduction sequences at Grimes Graves, the mines were exclusively Neolithic in date (Clark and Piggott 1933: 182).

Although Piggott had concluded that the plain carinated bowls of Yorkshire were late in the Windmill Hill culture sequence, both he and Childe had entertained the possibility that they might be related in some way to the 'tulip beakers' of the Michelsberg culture. This connection was addressed critically by Jacquetta Hawkes (1934), who sought to place Windmill Hill firmly in the Western Neolithic 'family' of cultures. Following Childe, Hawkes argued that the Western Neolithic had spread from the Western Mediterranean, and that in Iberia at least it had pre-dated the construction of megalithic tombs. Consequentially, the Windmill Hill culture could not be attributed to either Mesolithic hunter-gatherers, nor megalith-builders, nor Danubian peasants expanding from the Balkans (Hawkes 1934: 26). What this argument shares with Childe is the conviction that if a 'Western' Neolithic could be distinguished from other Neolithic assemblages in temperate Europe, it must have arrived there from somewhere else, rather than being generated *in situ*. It follows from this that the Western tradition should be separate from and parallel to the Danubian, and should have a separate place of origin. Hawkes suggested that this was demonstrably the case in western Switzerland, where the Cortaillod culture was contemporary with the *Linearbandkeramik* (LBK), having arrived there from the south of France (Hawkes 1934: 40). In its earliest manifestations, as in the early layers at the Camp du Chassey, the Western Neolithic was distinguished by simple vessel forms bereft of decoration (Fig. 5.3). Michelsberg, with its complex pot-forms, had emerged on the Lower Rhine after the demise of the LBK as a late aspect the Western complex, under Danubian influence (Hawkes 1934: 31). It followed that the Windmill Hill culture could not be derived from Michelsberg, and that the simple forms of 'Neolithic A1' were closely allied to Cortaillod.

Replying to Hawkes' arguments, Piggott began to speculate that the establishment of the Windmill Hill culture may have involved a process more complex than the arrival of a single homogeneous community from the continent. He proposed instead 'complicated infiltrations of small groups of peoples at various points along our coasts, each bearers of a slightly different form of a culture with



A, WINDMILL HILL ($\frac{1}{4}$) B, WINDMILL HILL ($\frac{1}{4}$). C–F, NEOLITHIC AT NEUCHÂTEL ($\frac{1}{2}$)

Fig. 5.3. Jacquetta Hawkes' comparison of Neolithic vessels from Windmill Hill and Neuchâtel (from Hawkes 1934, with the kind permission of *Antiquity*)

basic unity but regional variants' (1934: 376). At the same time he hypothesized a degree of overlap between the Windmill Hill culture and his 'Neolithic B', the users of Peterborough Ware, who may have exercised some influence over the later, decorated, forms of Windmill Hill ceramics. But most importantly he re-emphasized the presence of a 'sub-Michelsberg element' in eastern Britain during the earlier Neolithic, alongside the lugged, baggy pots of south-west England. Hawkes' riposte was to point out that the carinated bowls of eastern Britain must have been later than the tulip-beakers from which they had supposedly evolved, while questioning how it was that all of the other Michelsberg vessel forms had been 'shaken off' in the course of migration to Britain (1935: 127). In her view, the Windmill Hill and Michelsberg cultures were parallel developments from a common root.

Evidently, the exclusive study of ceramics was not producing a definitive perspective on the origin of the British Neolithic, and Piggott's next move was to shift his focus onto field monuments. Firstly, he challenged the orthodox view that the long mounds of southern and eastern Britain were a rendering in earth and timber of the megalithic tombs of the west, such as the chambered long cairns

of the Cotswolds. Alongside causewayed enclosures and flint mines, earthen long barrows should be seen as a primary element of the Windmill Hill culture (Piggott 1935: 122). Seeking a continental inspiration for the long barrows, Piggott turned to the monumental mounds of southern Brittany, such as the Manio group, ancestral to the colossal Carnac mounds. As he pointed out, distinctive ceramic features such as the 'trumpet-lugs' seen on the pottery from Hembury in Devon were also represented in western France (Piggott 1937: 450). Moreover, the transepted chambers found in some Breton megalithic tombs were also represented in Britain, where they had been introduced into long mounds, as at West Kennet. By the end of the 1930s, then, Piggott was apparently warming to Hawkes' notion of a western (or Western) origin for Windmill Hill.

Significantly, when Piggott came to write his major overview of the British Neolithic (1954), he chose to introduce the Windmill Hill culture by first discussing its field monuments: the long barrows, causewayed enclosures and flint mines, rather than the pottery that had initially been the focus of his researches (Fig. 5.4). Windmill Hill was presented as an immigrant culture that had initially been concentrated in central southern England, and which was completely separate from the small, highly mobile Mesolithic population, which made little discernable impact upon it (Piggott 1954: 15–17). Its pottery distinguished Windmill Hill as part of the 'great Western family', attributable to a relatively early stage in the European Neolithic (Piggott 1954: 97). Windmill Hill possessed features that could be paralleled in north-west France (baggy pots, trumpet-lugs, long barrows) and Michelsberg (causewayed enclosures, carinated bowls, antler combs, leaf-shaped arrowheads), although these might be put down to an 'underlying unity' of Western Neolithic culture. One way of rationalizing the evidence, Piggott suggested, might be to hypothesise an as-yet unknown donor culture somewhere in northern France which had combined all of the elements of the Windmill Hill culture (1954: 99). The narrative that Piggott constructed in *Neolithic Cultures of the British Isles* was one of the expansion of the Windmill Hill culture by overland colonization, into the Chiltern hills, the East Anglian fens, the Lincolnshire Wolds, and Yorkshire. As this expansion from the primary bridgehead was taking place, new migrant groups were becoming established on the western coast of Britain, each issuing from a different region of Atlantic Europe. Thus the Severn-Cotswold tomb-builders came from western France, while the Clyde-Carlingford people set off from the Pyrenees (1954: 151). Yet here again, the lack of precise continental parallels for the British material asserted itself. The Clyde-Carlingford long cairns had affinities with Pyrenean tombs, but Piggott also had to suggest connections with the Breton long mounds and Maltese temples, while acknowledging that the crescentic forecourts might have been an indigenous development (1954: 186).

Two years later, Piggott returned to the question of whether more than one continental source might have contributed to the formation of the Windmill Hill culture. Windmill Hill was clearly unrelated to both the Danubian tradition and the Forest Neolithic of the eastern Baltic, but a number of other assemblages suggested echoes in the British material. Significantly, opinion on the Michelsberg culture had shifted amongst continental scholars, indicating that it should now be seen as a variant of the North European TRB rather than the Western 'family' (Piggott 1956: 98). This cast Piggott's exchange with Hawkes in a new light, for Michelsberg need not now be understood as a baroque late derivative of

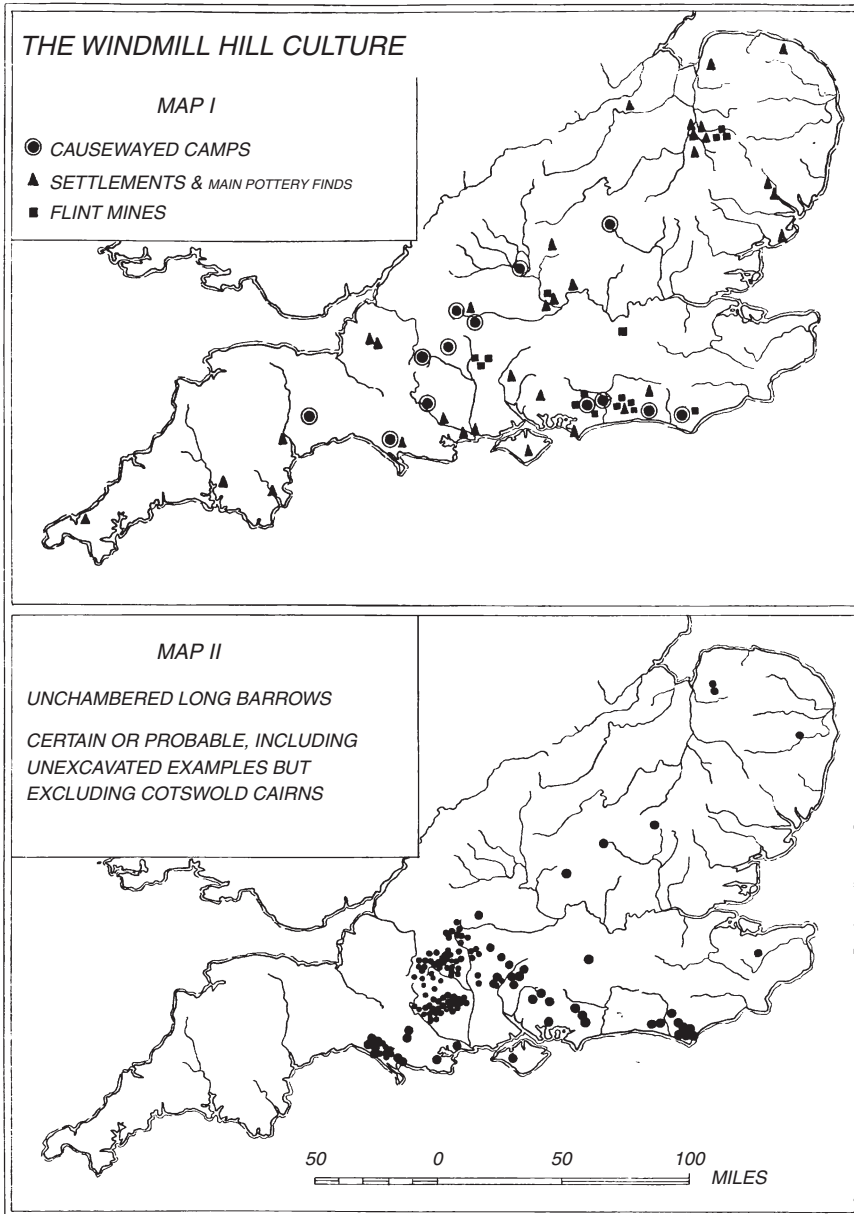


Fig. 5.4. Stuart Piggott's maps of the Windmill Hill culture (from Piggott 1954)

the same source material as Windmill Hill. The British Early Neolithic might now be seen as possessing 'western' and 'eastern' aspects, particularly now that long barrows had been attributed to the TRB in both Germany and Poland. Piggott increasingly saw Windmill Hill as a distinctive insular development, which drew on a series of different continental traditions (1961: 558). Following the

completion Isobel Smith's PhD thesis on Neolithic ceramics in south-east England (1956), Piggott also acknowledged that Peterborough Ware had developed from Early Neolithic pottery in the insular context, rather than being related to incursions of Baltic Pit-comb people (1961: 568). This raised certain difficulties for the notion of 'secondary Neolithic cultures' derived from Mesolithic survivals.

In a final assessment of the British Mesolithic-Neolithic transition, Piggott (1972a: 217) again emphasized its exogenous character, without coming any closer to defining its point of origin. Now, however, he stressed the importance of environmental evidence as a key to understanding the character of change. Since the Neolithic involved the replacement of hunting and gathering by agriculture, substantial interference with the natural vegetation was by definition an indicator of the establishment of the new regime. The elm decline, whether representing clear-felling, ring-barking, or a leaf-fodder regime, was identified as an anthropogenic phenomenon, and its broad synchronicity across Britain suggested a very rapid onset to the Neolithic (Piggott 1972a: 218). Rather than the gradual expansion of the Windmill Hill culture out of Wessex, Piggott now suggested that 'western' (Chasséen) and 'eastern' (Michelsberg) elements had become established simultaneously (Piggott 1972: 225). Although the connection between Michelsberg and TRB had now fallen from favour, the recognition of linear timber chambers, trapezoidal palisades and wooden façades associated with British long barrows indicated that they had strong affinities with structures in Denmark, Germany and Poland, while long mounds were entirely absent from the Michelsberg zone (Piggott 1972a: 226). In concluding, Piggott could only affirm that the continental connections of the earliest British Neolithic were complex in the extreme, since specific traits could only be paralleled in Breton, Michelsberg and TRB contexts.

In the interim, Jacquetta Hawkes had adopted a less academic approach to prehistory, and had addressed a broader audience with her vibrant (if speculative) evocation of Britain, *A Land* (1951). If her purpose was 'altogether unscientific' (1951: 1) the freedom that she allowed herself in this work has the benefit of making explicit a series of ideas that might have been tacitly shared by many of her generation. Having dwelt at length on the geological formation of Britain, Hawkes turns to its peopling, noting that by the time that Mesolithic hunters had established themselves in the forests they were 'already backward' in relation to developments in the east Mediterranean (Hawkes 1951: 154). Arriving by sea, Neolithic people brought to Britain not only livestock and grain, but also 'a promise of deep-seated change'.

The Neolithic farmers were humble enough, they could not foresee how their successors would destroy the forests and subjugate the whole land, but they came with an additional equipment of conscious purpose and will. . . . this refusal merely to accept.
(Hawkes 1951: 156).

Hawkes was thus offering a vitalist account, in which the categorical difference between Neolithic migrants and Mesolithic indigenes lay not in technology or economy, but in an attitude to the world, and a destiny. In tune with Enlightenment accounts of global history, she focused on the critical role of the Neolithic in the development of humanity's mastery over nature. As such, she drew on a long-established prejudice against hunter-gatherers, who formed the static baseline of

human history, existing within nature rather than acting upon it (Finlayson and Warren 2010: 36). The 'new spirit' of the Neolithic migrants was manifested amongst other things in the beginning of pottery production, forcing 'the raw material of the land' to the human will (1951: 158). Yet Hawkes also argued that Neolithic society was one in which the female principal was dominant, under the presiding influence of the Great Goddess, and in which warfare was unknown. 'Religious uniformity [promoted] the development of a consciousness embracing the whole land' (Hawkes 1951: 165). The subsequent invasion of the warlike Indo-European Beaker Folk was a catastrophe, and was succeeded by a series of further incursions. None the less, the Neolithic had set the scene for the continuous process of the possession of the British landscape by its people, and continued to exert an influence over that process.

I cannot resist the conclusion that the relationship reached its greatest intimacy, its most sensitive pitch, about two hundred years ago. (Hawkes 1951: 143)

In other words, the Neolithic marked the point at which the organic unity of people and place which marks the essence of the British landscape first fell into place, only to be ripped asunder by the Industrial Revolution and the incursion of the machine. Yet as Hutton (1997: 95) points out, this idyllic picture of rural Britain is a myth: the period that Hawkes identified as the apogee of holistic balance was 'also the time of the Atlantic slave trade, rotten boroughs, the Bloody Code of capital offences and the golden age of aristocratic oligarchy'.

GRAHAME CLARK AND THE INVASION HYPOTHESIS

While Childe and Piggott had both been willing to identify most of the cultural developments of the British Neolithic with the movements of human populations, a reaction against this approach began to gather force with Grahame Clark's landmark paper of 1966, 'The invasion hypothesis in British archaeology'. It is worth noting in passing that Clark's perspective on British prehistory in general and the Neolithic in particular had been influenced by his protracted involvement in the Fenland Research Committee, his consequent familiarity with Sir Harry and M. E. Godwin's contribution to the understanding of early Holocene environments, and his recognition of the complexity of Mesolithic life in Britain through his work at Star Carr (Smith 1994: 28; Fagan 2001: 165). In the 1966 article, Clark noted a historical correlation between the use of invasion and migration as explanatory mechanisms, and the imperialist or colonialist context of archaeological investigation in the nineteenth and twentieth centuries. In central Europe, arguments concerning the genesis and expansion of Aryan peoples had been connected with atavistic nationalism, but their British counterparts had paradoxically involved the insistence that every successive cultural innovation had been brought to the islands by recurring waves of migrants (Clark 1966: 172).

Clark's rejection of this framework was, however, limited in its scope. He took it as a given that both the beginning of the British Neolithic and the arrival of the 'Beaker folk' could only be understood in terms of influxes of population. However, Clark hypothesized that the complex series of developments that separated

these two events reflected the gradual modification of established cultural traditions over periods of hundreds of years. Thus, while Piggott had invoked the relations between a set of distinct population groups to explain even the change between his 'Neolithic A1' and 'A2' pottery styles, Clark sought to characterize the whole of the earlier Neolithic as a series of variants on a single 'round-based bowl culture' (1966: 178). While different regional styles of decorated bowl pottery could be identified, such as Windmill Hill, Abingdon, Whitehawk, Mildenhall, and Ebbsfleet, these were all used by people whose cultural repertoire was otherwise homogeneous. Stone axes, serrated flint flakes, leaf-shaped arrowheads, scrapers, bone combs, and earthen long barrows were all held in common by these groups.

Clark's argument was principally seeking to displace the 'partial cultures' that Piggott had invoked, in which only a handful of traits distinguished between the material assemblages found in different regions. Where Piggott 'split' these assemblages into distinct cultural entities, Clark 'lumped' them into a single culture, which needed only a single episode of folk migration to account for its appearance. Importantly, Clark was therefore acknowledging the extent to which cultural innovation can take place *within* established communities. This represented an implicit critique of Childe's search for far-flung geographical origins for cultural traditions that underwent only minor modification across time and space, and by extension the whole concept of the 'Western Neolithic'.

However, Clark's arguments had potential implications that he did not follow to their conclusion. If Neolithic migrants could elaborate their cultural repertoire following their arrival in Britain, why should the same degree of cultural plasticity not be afforded to Mesolithic communities as well? Or must they continue to be cast as uninventive 'savages'? If migration and invasion were not required to explain every twist and turn of cultural change throughout the Neolithic period, why should they necessarily be involved in its initiation? In practice, it was at the end of the Neolithic that a more thoroughgoing demolition of the 'invasion hypothesis' would begin, with a critical evaluation of the notion of the 'Beaker folk'. Since Beaker pottery appeared to have been superimposed onto an indigenous cultural pattern, and given that single grave burials had come to be recognized as an integral element of the middle and late Neolithic in Britain, the Beaker assemblage came to be recognized as a special-purpose 'status kit', spread through contact between elite groups (Burgess and Shennan 1976; Shennan 1982). In general, the 1970s saw a decline in the reliance on invasion and migration as explanations for cultural change in prehistory, not least because they appeared increasingly irrelevant to the longer chronologies that were being created by radiometric dating (Clarke 1973: 10). It would only be a matter of time before alternative mechanisms began to be proposed for the Mesolithic-Neolithic transition.

HUMPHREY CASE'S NEOLITHIC EXPLANATIONS

If Clark modified culture-historic accounts of the beginning of the British Neolithic by limiting the role of folk movements, an equally important qualification of

these arguments was contributed by Humphrey Case (1969). Alone amongst his generation of prehistorians, Case attempted to think through the *practical* implications of the transfer of a continental farming system to Britain and Ireland. While he continued to understand this process exclusively in terms of population movement, he was critical of the abstract and generalized terms in which 'colonization' or 'immigration' were generally discussed. Case focused on the material difficulties that would be faced by stone-using communities attempting a cross-Channel relocation using traditional forms of transport. While the Neolithic agricultural economy was 'mature and non-experimental', its introduction to an offshore landmass would have exposed migrating populations to a series of tangible risks. Not only did people, animals, technology and seed-corn have to be transported in seagoing vessels of some kind: this could only have been achieved at certain times of year, owing to a series of limiting factors. In their continental homelands, the potential migrants would have been engaged in tending their fields, harvesting their crops in the late summer, and watching over cattle to insure that the cows were not mated with by wild bulls. This would mean that only a limited seasonal window would have existed, between August and September, during which a community and its effects could have been packed into large but light skin-covered vessels and carried to a new home.

However, Case speculated that there would have been other times of year when the whole community need not have been engaged in routine agricultural tasks, and some people (young men in particular) could have been released to go on reconnaissance trips or 'seasonal movements' (Case 1969: 177). These trips would have been used to gain familiarity with beaches, tides and currents, as well as favourable settlement locations, with the result that the risks involved in 'communal movements' could have been reduced. Case went on to propose that this combination of seasonal and communal movements had become a characteristic aspect of Neolithic social life in north-west Europe, reflected in a series of aspects of cultural change. For while Neolithic societies would have been conservative and resistant to change of any fundamental kind, the slow continuum of cultural tradition intersected with the more sporadic and long-distance contacts afforded by seasonal movements conducted by small numbers of people. In this way, exotic cultural traits might have been acquired and added to the more stable core of a material assemblage.

Given the difficulties involved in the sea voyage (cattle trussed up in boats, and seed-corn transported in baskets), Case argued that the first manifestation of the Neolithic in Britain may have been a kind of stripped-down variant, without unnecessary fripperies. There may have been few cattle or crops, while the manufacture of pottery and the construction of monuments may have been set aside for some generations, until a viable agricultural base had been established. This idea of a kind of 'cultural hiatus' at the start of the Neolithic, together with the circulation of cultural traits through seasonal movements, enabled Case to present an explanation for the cultural pattern that had so baffled Piggott. The pots that began to be made some while after the initial colonization might bear only a general resemblance to their continental precursors, and might also have been subject to the cross-pollinating effects of seasonal movements. Similarly, the locations of monuments such as long barrows need have had no direct relationship with landfalls of migration routes, since they would date to a period of 'stable

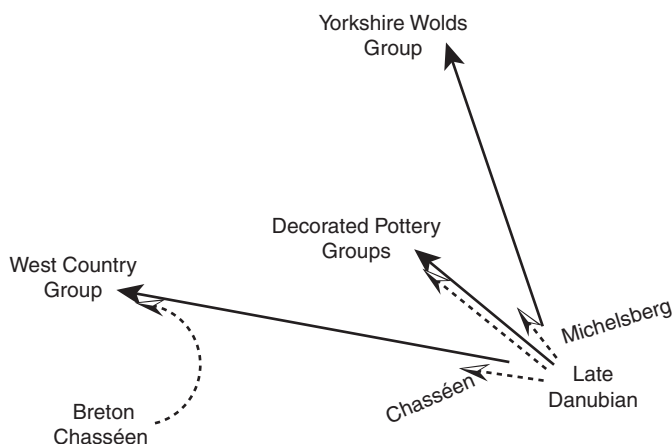


Fig. 5.5. Humphrey Case's diagram of the elements contributing to the primary British Neolithic (redrawn after Case 1965)

adjustment', once a fully realized Neolithic community had emerged. 'Stable adjustments', which were the outcome of both communal and seasonal movements, developed in areas like Wessex, the Yorkshire Wolds, and Sussex, and necessarily combined elements of different continental cultural groups, including the Chasséen, Michelsberg, and Late Danubian groups such as Cerny and Rössen (Case 1969: 183) (Fig. 5.5).

Ingenious as they are, these arguments are not without their problems. The notion of a cultural hiatus at the point of transition is something of a sleight of hand, for it posits an earliest Neolithic that is all but archaeologically invisible. Case's hypotheses are thus placed beyond any kind of empirical evaluation. Further, if we have a Neolithic that has very few crops or domesticated animals, no pottery and no monuments, what makes it Neolithic? What made these people any different from the native Mesolithic communities? The answer appears to be that a group of people had been introduced to Britain who had the *potential* to become Neolithic. This would seem to rely on the culture-historic view that culture resides in the mind, in the form of norms and ideas, which are later manifested in material form. Case appears to argue that such ideas could remain latent for generations in ideal form, until conditions allowed their materialization. We might object that material traditions are actually reproduced through practice, rather than through the recall of mental templates. The way to make a pot is not stored as a set of explicit mental instructions, but realized and passed from person to person in action. Such material traditions *might* survive a period of latency, but they would certainly require some form of active reconstitution in order to be brought back into being. Moreover, the idea that ceramics or monuments were inessential 'luxuries' to be indulged in once more important matters had been dealt with implies that Neolithic culture had some form of internal hierarchy, and that some elements formed a 'core' (economy and technology), while others were relatively superficial. Such a hierarchy could arguably be seen as a modernist imposition.

ALASDAIR WHITTLE ON THE CONTINENTAL
BACKGROUND

Alasdair Whittle's doctoral thesis (1977), completed at Oxford University under Humphrey Case's supervision, marks an important point in the development of ideas concerning the Mesolithic-Neolithic transition in Britain. In one sense it represented a continuation and elaboration of Case's arguments, but Whittle placed these into a more detailed account of the north-west European Neolithic sequence. The volume's point of departure is the observation that mature Neolithic communities were established in southern Britain by the earlier fourth millennium BC, distinguished by settlement sites, enclosures, mortuary monuments, flint mines and stone axe quarries, pottery, forest clearance, and domesticated plants and animals (Whittle 1977: 11). This fully developed pattern might have been prefigured by either a pioneering phase, or a period during which local Mesolithic communities assimilated a range of Neolithic innovations. Whittle entertained the possibility that the expanding hunter-gatherer populations of Britain might have come into contact with continental Neolithic groups, thereby acquiring domesticates and new kinds of artefacts, and acknowledged that this scenario overcame the problem of there being no precise European parallel for the artefactual assemblages of the British Early Neolithic (1977: 102). However, although he recognized that rapid changes in artefact style had occurred at other points during the Mesolithic, he concluded that the beginning of the Neolithic was so complete and abrupt a transformation that it could only have been initiated by a change of population. The fate of the British hunter-gatherers was probably one of economic disruption, followed by rapid assimilation into the larger Neolithic societies, rather than decimation by disease or long-term survival alongside the newcomers. Indeed, within the longer chronology for the Neolithic afforded by radiocarbon dating the notion of Mesolithic survivors contributing to later Neolithic cultural formations seemed increasingly unlikely.

Following Case, Whittle argued that palynological evidence for woodland clearances before 4000 BC, and early radiocarbon dates for sites such as those from Ballynagilly in Northern Ireland (ApSimon 1976) might represent evidence for an early, formative stage in the British Neolithic. The first colonists might have had a restricted range of material goods, and thus have left a meagre archaeological signature. This would mean that a stage of their cultural development was missing or occluded. Moreover, if the arrival of Neolithic people in Britain dated to 4300 BC or earlier, the continental parallels that should be considered included the LBK and its successors. On this basis, Whittle considered the material sequences and settlement histories of the Rhineland, northern France, and southern Scandinavia. While similarities could be identified between the British material and the Michelsberg, Chasséen, and TRB assemblages, the match was in no case precise. All three ceramic styles included vessel forms not found in Britain, while even the leaf-shaped arrowheads of the Belgian Michelsberg tended to have a triangular cross-section, a hollow base, and retouch around the edge rather than over the whole surface. Consequentially, these 'Middle Neolithic' groups should be seen as parallel developments alongside the classic British Neolithic, with its round-based bowls, long barrows, and causewayed enclosures. As shouldered

bowls, piercing arrowheads, earthwork enclosures, and 'Western' style flint and stone axes all developed amongst such post-LBK groups as Grossgartach and Rössen, these should probably be identified as the common ancestors of the British Neolithic and Michelsberg, and as having had a formative influence on the northern Chasséen and the TRB (Whittle 1977: 129).

Neither flint mines nor long barrows had been present in the broader LBK tradition, and Whittle argued that these were not core elements of Neolithic culture, but additions that had spread through patterns of contact. It was perhaps significant that the long mound 'idea' could be related to the Danubian longhouse, while the diverse mortuary monuments of Brittany and Normandy might have provided prototypes that British Neolithic communities drew upon to construct their own barrows and tombs, perhaps some generations after their arrival (Whittle 1977: 239). One very important aspect of Whittle's account is the effective decline of the idea of the 'Western Neolithic'. The much more extensive knowledge of the Neolithic sequences in northeast France, the Low Countries and northern Germany now left little doubt that groups like the Michelsberg were the successors of the Danubian, rather than part of a parallel tradition. The apparent similarities between assemblages dispersed along the Atlantic seaboard of Europe should now be understood in terms of social interaction, rather than long-term cultural continuity.

Conceived in the context of a growing recognition that environmental and palaeoeconomic evidence might answer questions that artefacts alone were unfit to address, Whittle's thesis contributed to a new consensus that the beginning of the British Neolithic had been early in date. Late Danubian people had colonized the islands, and had developed a sophisticated agricultural system before beginning to construct field monuments (see, for instance, Mercer 1981: ix–xi).

ROBIN DENNELL'S 'INDIGENISM'

In Chapter 4 we encountered Ammerman's (2003: 14) notion of 'indigenism', and his charge that accounts of native communities developing food-production systems of their own are implicitly linked to nationalist agendas. In the case of Britain, the most thoroughly articulated 'indigenist' interpretation of the Mesolithic-Neolithic transition is found in Robin Dennell's *European Economic Prehistory: A New Approach* (1983). Dennell had been an associate on the British Academy major research project on the early history of agriculture (Clark 1972: vii), and was clearly sympathetic to Higgs and Jarman's re-evaluation of the origins of agriculture (1969). For Higgs and Jarman, the division between farming and other economic systems had been overdrawn, owing to the misconception of agriculture as a cultural 'idea' that had been invented at some time in the past. Rather than an innovation that had come into being at a particular place and time before spreading across the Old World, Higgs and Jarman argued that the domestication of plants and animals was merely an extension or intensification of forms of symbiosis that must have existed in many separate regions during the course of prehistory (1969: 39). Accordingly, 'domestication' might have occurred many times in the past, sometimes lapsing as conditions changed. As a form of

behaviour rather than a cultural practice, domestication should be seen as a response to environmental conditions and population levels, not as the product of social or cognitive evolution.

Broadly in line with this perspective, Dennell proposed to write an alternative prehistory of Europe, in which the moribund chronological divisions of culture-history (Palaeolithic, Mesolithic, Neolithic) were jettisoned, and replaced by a temporal framework based on developing patterns of subsistence economy (Dennell 1983: 20). Further, he established a distinction between 'traditional' and 'novel' resources, arguing that the transfer of species between regions was quite a different issue from the intensified management of local plants and animals (which might sometimes approach 'domestication'). In the specific case of Neolithic Britain, Dennell identified a particular problem in the diffuse character of the evidence. While the start of the period might date back to some time between 4800 and 4300 BC, forest clearances or activities in marshy areas such as the Somerset Levels were difficult to specifically attribute to either hunting or farming societies.

Further, as Piggott and others had found long before, it was hard to identify the origins of the supposed Neolithic colonists. The British Neolithic was apparently composed of 'a hotch-potch of different traits that can be derived from a large expanse of the hinterland from Jutland to Brittany' (Dennell 1983: 182). The upshot of this was that archaeologists seemed to propose that at the start of the Neolithic Britain had been inhabited by two separate communities, of local hunter-gatherers and exogenous agriculturalists respectively, whose activities could not be differentiated on archaeological criteria. It was presumed that continental farmers had been driven to Britain by population pressure, yet there was no evidence for this, while the agricultural colonization of much of Europe by LBK groups had demonstrably involved very low population densities. These land-bound farmers had apparently arrived by sea travel, of which they had had no previous experience. So traumatized had they been by the experience of arriving in Britain and coping with stressful conditions that they promptly abandoned the ceramics and monuments that had formerly marked them out as Neolithic (Dennell 1983: 184). Dennell's conclusion was that 'the origin of British Neolithic colonists lies not in northern Europe, but in the minds of nineteenth-century prehistorians who assumed that prehistoric agricultural expansion could have occurred only through the expansion of prehistoric agriculturalists' (Dennell 1983: 185). The belief that hunter-gatherers could not intensify their economic practices and develop a form of agriculture was no more than an inherited prejudice.

Dennell's alternative scenario involved progressive changes that took place during the Late Mesolithic. As postglacial reafforestation and rising population had begun to put indigenous hunter-gatherers under stress, they would have begun to intensify their exploitation of 'traditional' resources. This involved the deliberate burning of upland areas to encourage game and provide new growth of food plants, and the closer management of wild crops such as hazel and acorn, as well as beginning the use of marine resources. This intensification would have led on seamlessly to the domestication of certain locally-available wild species, such as cattle and pig. With an increased interest in foods acquired from the sea, navigational skills would have been enhanced, as they had been amongst Mesolithic

groups throughout Europe. This was demonstrated by the presence of the remains of deep-sea fish from middens at Morton and Oronsay. Thus, whilst communications between Britain and the continent had been severed by the flooding of the land bridge following the last glaciation, contact would have been re-established by Late Mesolithic seafarers. Sheep, cereals, and potting skills could have been acquired from continental Neolithic communities, and incorporated into a way of life that was already pre-adapted to their use. Cereals would have been planted and sheep grazed in clearings that had been developing over some generations, while the skills of animal husbandry had already been fostered through the management of indigenous ungulates. The introduction of 'novel' resources simply amplified economic processes that had already been underway for some centuries.

IAN KINNES AND THE 'CATTLESHIP POTECHKIN'

Five years after Dennell, Ian Kinnes returned to the themes of ambiguous evidence and disciplinary preconceptions in order to argue that many contemporary assumptions about the earliest Neolithic in Britain were as hollow as the façades of Grigory Potemkin's fake villages in Tsarist Russia, referred to in his punning title ('The Cattleship Potemkin: reflections on the first Neolithic in Britain': Kinnes 1988). Kinnes urged a more parsimonious attitude towards the evidence, and in particular toward radiocarbon dating (see also Kinnes and Thorpe 1986). A realistic evaluation of the capacity of the material to support interpretations might yield results that were less spectacular, but more reliable. Kinnes contrasted the situation in Britain with that on the continent, where more detailed and extensive artefact sequences afforded greater control over Neolithic chronology. In the absence of this kind of framework, the inadequate British radiocarbon chronology had been over-interpreted, giving the illusion that the timing and duration of the Mesolithic-Neolithic transition was securely understood (Kinnes 1988: 2). A critical evaluation of all radiometric determinations earlier than 4300 BC demonstrated that they generally came from sites that had also produced later dates as well, revealed dubious contexts or suspect patterns of association, or were potentially subject to the old wood effect. Consequentially, the case for any Neolithic presence in Britain prior to 4000 BC was hard to substantiate (Kinnes 1988: 6). One potential exception to this diagnosis was the site of Ballynagilly, where a suite of early radiocarbon dates appeared to be internally consistent. However, the association of these dates with plain pottery vessels that could not be matched anywhere on the continent in the mid-fifth millennium BC raised serious difficulties.

The poverty of the chronology was matched by that of other aspects of the evidence, notably material relating to subsistence practice. What was known about animal husbandry in the Early Neolithic was largely based on faunal assemblages from causewayed enclosures, which had not developed until some hundreds of years after the transition. The mature cattle economy of this era could not necessarily be projected backwards to the start of the Neolithic. Equally, in the pollen record, the combination of woodland clearances and large grass pollen had

been too readily identified with cultivation, starting from a very early date. It was significant that no actual carbonized or waterlogged cereal grains had been recovered from any Mesolithic context, and so claims for precocious 'Mesolithic horticulture' should be approached with caution. Here again, there was little support for a fifth millennium BC British Neolithic.

Artefacts, too, were relatively intractable. It was increasingly clear that the pottery of the earliest Neolithic was composed almost exclusively of undecorated round-based bowls (see Herne 1988). However, the only feature of these vessels that was at all distinctive was the presence of a pronounced carination. Far from locating the point of origin of any continental migrants, pottery of similar style was widespread in northwest Europe: in the Michelsberg, Hazendonk, and even the plain ware component of Rössen. The contexts of occurrence of the early pottery were perhaps more distinctive, including formal pit deposits and the early phases of mortuary monuments. Alongside leaf-shaped arrowheads, and fully-polished axes, ceramic vessels could be understood as material symbols, which might have played an active role in the establishment of the Neolithic, rather than merely reflecting other processes. Kinnes further speculated that during the earliest stages of the Neolithic, pottery might have been reserved for special activities, and that a truly domestic ceramic assemblage took some time to develop (1988: 4). In contrast with Case, Kinnes also proposed that monuments were a fundamental element of the Neolithic in Britain, and not subsidiary to the mechanics of food-production. Some of the earliest structures, however, would have involved a very modest input of labour for their creation. Chambered tombs, although one of the more significant early monument types, did not reveal the direct transportation of continental architectural traditions to Britain. Instead, it was the more general notion of creating an enclosed space for the dead that was transferred, with structural details recombined locally.

Although Kinnes' arguments were intended to be modest, his contribution contained a series of subtle points that anticipated later debates. Notably, in an understated way, he introduced the notion that material things might have an active role in the Neolithic transition. Without explicitly favouring either migration or indigenous assimilation, he pointed to the importance of contacts between coastal Mesolithic communities engaged in deep-sea fishing and the circulation of artefacts and materials beyond social boundaries as factors that might have been involved in the spread of innovations independently from integrated assemblages and their bearers. Particular attention was drawn to jadeite axes as significant artefacts that passed between social contexts in northwest Europe, and which might have played a role in generating change through their circulation.

IAN HODDER: DOMESTICATING BRITAIN

Ian Hodder's *The Domestication of Europe* (1990) was an innovative study of symbolic structures in Neolithic Europe as a whole, which extended its arguments as far as south-west Asia, and back through time toward the Palaeolithic. It had rather little to say about the precise mechanisms involved in the British Mesolithic-Neolithic transition, and yet it holds an important place in the debate.

Hodder's discussion of the origin and dispersal of agriculture broke with much previous work by arguing that social and symbolic changes may have preceded and facilitated the emergence of cultivation and herding. The domestication of plants and animals was made possible by the conceptual domestication and control of the wild through an emphasis on the home and the hearth, which simultaneously brought the household into being as a framework for organizing collective labour. Hitherto, hunter-gatherer societies had been composed of webs of relationships that were not strongly divided on kin lines. In order to express the structural opposition between the domestic realm and the wild, Hodder introduced the terms *domus* and *agrios*. While the former connected together themes of cultivation, nurturing, enclosed domestic space, social collectivity and the female, the latter related to masculinity, violence, death, hunting, warfare, and personal prowess. Although opposed, the *domus* and *agrios* were mutually constituted, and encapsulated each other. The relationship between the two concepts could be observed in Early Neolithic symbolism throughout Eurasia, and involved both the celebration of the wild and its incorporation into and control through the domesticated world (Hodder 1990: 11). Thus a new symbolic structure channelled and transformed existing experiences, emotions and ideas, and linked the control of the productive and reproductive capacities of human beings to those of nature.

At both Lepenski Vir (which was a non-agricultural settlement) and Çatal Hüyük in Anatolia (which was more obviously involved in food-production), death and the wild could be recognized as themes that were being deployed within the domestic context, whether through artworks or the deposition of animal remains. However, while Hodder was dealing with symbolic patterns that were at once large-scale and long-term, he was anxious to avoid the charge of determinism that is often levelled at such 'structural histories'. Where Higgs, Jarman, and Dennell had sought to question the status of the origin of agriculture as a critical moment in human development, Hodder presented it as a contingent process, whose outcomes might have turned out otherwise (1990: 41). This was because the changes he was documenting were the results of decisions made by singular human beings, who could always have acted in other ways and who would have had only a partial appreciation of the context and outcomes of their actions. Hodder was therefore presenting his symbolic structures as resources that were drawn on in social conduct, and which facilitated particular kinds of action, without any specific consequence being inevitable. The symbolic structure of the *domus* and *agrios* was a conceptual one, but it was social as much as cognitive, implemented and manipulated in the public world as much as in the mind. Such a structure is composed of the connotations and associations that cluster around material phenomena, over and above their primary significance and use. Hodder's argument was that these meanings were of tangible importance to people in their everyday lives, whether in negotiating their social position or in making sense of their surroundings, and that as such they might have had a role in social processes that was just as important as that of the procurement of subsistence (1990: 15).

In charting the emergence of the *domus/agrios* complex across Europe, and its relationship with the spread of domesticated resources, Hodder pointed to a very important contrast between the Balkan Neolithic and that of the Atlantic zone. In the Early Neolithic of south-east Europe, the *domus* was closely linked with the development of the household as a primary unit of sociality and economic

production. Hodder notes that there is relatively little evidence for productive activities that were organized at any higher social level. Yet the Neolithic archaeology of north-west Europe is dominated by large monumental structures that clearly required the labour of substantial groups of people for their creation. Hodder suggested that after 4300 bc the *domus* idea ceased to be fixed to the home and the domestic unit, and 'moved upwards' as the organizational scale of productive labour increased (1990: 244). Indeed, it was the *domus* that was manifested in the architectural ordering of Neolithic monuments, notably in their linear or axial grading of space. Symbolic principles that had formerly been applied to the incorporation of the wild into the human world were now being used to domesticate and subjugate entire societies. In Early Neolithic Britain a variety of mortuary monuments utilized linear arrangements of space to dramatise the transformation of the bodies of the dead through natural processes of decay, formal ritual, and communal feasting. The symbolism of these practices had a particular efficacy because it was directly connected to multiple aspects of social life: the body, the domestic world and everyday consumption, wild and domestic animals, relations with metaphysical authorities, topography, and the heavenly bodies (Hodder 1990: 245). As mortuary structures such as chambered cairns eventually came to be blocked and sealed up, the knowledge embedded in these activities was becoming restricted, just as the linear ordering of space was coming to be extended across entire landscapes with the construction of cursus monuments. Hodder stresses the way that tombs, causewayed enclosures, and cursuses represent a monumental intervention into nature.

However, the scale of monuments and their capacity to mobilise and order human populations could not be extended indefinitely. Accounts like that of Renfrew (1973b) which chart the increasing scale of monumentality through the British Neolithic acknowledge that the largest structures (Silbury Hill, Stonehenge) were built immediately prior to a change of emphasis toward rich burials and elaborate portable artefacts. Hodder emphasized the way that Later Neolithic artefact styles and single grave burials seem to reference masculinity, individuality, warfare and hunting (1990: 272). The re-emergence of the *agrios* here seems to amount to a kind of 'return of the repressed', while also evoking Piggott's Secondary Neolithic Cultures. Although Hodder did not directly address matters of migration or indigenous change, his focus on the relationship between monuments, the domestic realm and labour organization introduced the crucial issue of the scale of Neolithic sociality and its variation across Europe into the literature. Hodder's more recent publications suggest growing reservations concerning accounts of prehistory dominated by large-scale structures (e.g. 1999: 132, 2000). Arguments that present 'structure' as a relatively coherent and consistent reservoir of ordering principles that exists independent of practice have been widely criticized (e.g. Barrett and Fewster 1998: 850). It is unclear where such structures might reside, if we reject the high structuralist view that they represent the inherent ordering faculties in human consciousness (Sturrock 1986: 47). In this respect, Hodder's (1990: 244) account of the *domus/agrios* structure 'surfacing' in various parts of ancient Europe is perhaps unsatisfactory, and the flaw of *The Domestication of Europe* lies in its lack of an explicit consideration of processes of tradition and social memory. Equally, Hodder's attempts to identify the structures that underlay Neolithic life sometimes slip from the relationship

between the domestic and the wild into the opposition between culture and nature. Not only is such a division unrecognized in many non-Western contexts (Strathern 1980; Descola 1994): it also demonstrably emerged at a specific point in the development of the modern West (Collingwood 1945: 104; Cassirer 1951: 39; Toulmin 1990: 109). Thus at times Hodder's account of Neolithic Europe comes uncomfortably close to echoing Enlightenment narratives of the subjugation of nature through human reason. Despite this, many of Hodder's observations remain an essential, and perhaps now rather neglected contribution to the debate.

JULIAN THOMAS: RE-HISTORICIZING THE TRANSITION

It may be helpful to the reader at this point to recapitulate the development of the author's own thinking on the Mesolithic-Neolithic transition, as this provides a background to the arguments elaborated later in this book. My starting point in this respect was the article 'Neolithic explanations revisited' (Thomas 1988a) which originated as an exercise in playing the accounts of Case, Dennell, Kinnes, and Zvelebil and Rowley-Conwy (1984, 1986) against one another, within a framework informed by emerging debates on the 'active' character of material culture (e.g. Hodder 1982b, 1986). It had already been observed that Mesolithic and Neolithic archaeology conventionally address entirely different aspects of human existence (subsistence economics as opposed to cultural traditions and social practice) (Bradley 1984: 7). But the result of this is that they often make use of different sets of evidence, and come to conclusions that are incommensurate. My intention was to find a basis for the integration of various classes of material in the process of social reproduction. In common with Dennell, I argued that the Mesolithic population of Britain were not the passive victims of either environmental change or Neolithic invaders. Zvelebil and Rowley-Conwy (1984) had presented a 'hunter-gatherer perspective' on the transition to farming in Europe, but they had none the less maintained that indigenous people had often found themselves forced into a fully agricultural way of life by adverse environmental circumstances, such as the decline of the Baltic oyster. In the case of Britain, I suggested that the increasing diversity of subsistence practices in the Late Mesolithic (investment in complex hunting tools, deliberate burning of upland areas, food storage, and the increasing use of marine resources) would have made the hunting and gathering way of life more resilient, and less susceptible to ecological fluctuations. At the same time, the acquisition of rich and varied foodstuffs might have fuelled an increasingly elaborate ceremonial life, involving exchanges, seasonal gatherings, feasting, and conspicuous consumption (see Bender 1981). Although the evidence for contacts with the continent was slim, it was likely that British hunters were well aware of the existence and potential of agriculture, and like their contemporaries in Scandinavia saw no immediate advantage in accepting it. If, as Kinnes had suggested, the beginning of the British Neolithic had been both abrupt and relatively late in date, it was unlikely that the virtually simultaneous Neolithization of Britain, Ireland, and Scandinavia, and the infilling of landscapes in northern continental Europe around 4000 BC, could all be attributed to any single localized environmental factor.

By implication, the question of the onset of the Atlantic Neolithic was a historical one, concerned with conditions that were at once temporally specific yet geographically widespread. If the common element in all of these areas was the adoption of Neolithic novelties by indigenous Mesolithic communities who had hitherto resisted them, one answer might be that the character of the Neolithic had itself changed, rendering it more acceptable, desirable, or compatible with traditional ways of life. In other words, the Neolithic was more than a regrettable fate that overtook unfortunate hunter-gatherers. Certainly, the continental material record suggested a variety of fundamental changes and innovations toward the end of the fifth millennium BC, including the development of plain bowl pottery assemblages, long mounds, and causewayed enclosures. This 'new Neolithic' offered a broader range of cultural resources, but it was also different from the primary European Neolithic, the *Linearbandkeramik*, in that it was no longer primarily a subsistence economy. While domestic plants and animals remained important elements of the Neolithic assemblage, the whole was now articulated at a conceptual level, combining the practical know-how of herding, cultivation, and the manufacture of new kinds of artefacts with esoteric, cosmological, or magical knowledge. At the same time, the material novelties of the Neolithic represented dynamic agents of change, rather than passive symptoms of a new economic or cultural order. Monuments and prestige goods (such as stone axes) were not luxuries to be indulged in by successful farmers, but functioned to foster and reproduce social relationships. Thus, while both Case and Zvevbel and Rowley-Conwy had presented tombs and barrows as representative of agricultural consolidation, they might actually have had a significant role in the emergence of Neolithic societies. Both the change in the character of the European Neolithic, and its objectification in material things helped to explain its rapid expansion into the Atlantic zone, following centuries of apparent stasis.

However, after some reflection I became dissatisfied with this argument. It shared with Hodder's *Domestication of Europe* the notion that the Neolithic possessed a 'core' that was conceptual or ideational. So although artefacts and monuments played an active role in the dissemination of the Neolithic, they none the less amounted to the tangible manifestation of an invisible, metaphysical entity. In this respect the argument shared something with both culture-historic and palaeoeconomic accounts of the Mesolithic-Neolithic transition. In each case, the material things that were accessible to archaeologists (stone axes, megalithic tombs, pottery vessels, flint mines) were understood as the outward signs of something that could not be directly encountered in the present: a 'folk' or population group, an economic system, or a conceptual structure. This amounted to a kind of self-defeating nostalgia for an absent Other, which served to systematically undervalue the archaeological evidence. Moreover, it represented an essentialism, which maintained that the Neolithic was *fundamentally* a folk-identity, or an economy, or an ideational system. My alternative (proposed in Thomas 1997; see also Thomas 1996a: 136–40 and 1999: 13–17) was to emphasise the role of material things (artefacts, monuments, *and* novel plants and animals) as a flexible repertoire of material and symbolic resources. These were not indicative of any particular ethnic identity, did not determine any particular economic strategy, and were not underlain by any particular set of ideas or

symbolic code. Yet they could be used by people to craft collective identities, to establish economic practices, and to transform meaningful worlds.

It follows from this that individual communities might make use of the Neolithic assemblage in different ways, in tune with their specific requirements and/or their internal tensions and conflicts. In Britain, there was strong evidence for the abrupt and widespread appearance of all of the elements of the 'package', but 'appearance' need not equate with thorough and universal dependence. It might take some while for the full implications of each innovation to be worked through, and for unintended consequences to be generated. In particular, the arrival of domesticated plants and animals might not immediately have resulted in the development of a fully agricultural landscape throughout the British mainland. Indeed, by this time arguments had developed that sought to question the degree of dependence on domesticated species in Neolithic Britain (Entwistle and Grant 1989; Moffett, Robinson, and Straker 1989). It was therefore helpful to consider the transition to the Neolithic in terms of multiple, superimposed temporalities: the sudden emergence of new material forms and domesticated species, versus the more drawn-out transformation of the landscape. This argument has sometimes been misrepresented or misunderstood as a straightforward 'gradualism' (Sheridan 2004: 9, 2007: 442; Brown 2007: 1049). The key point that I hoped to make was that although relatively similar artefacts and structures were found throughout Neolithic Britain, this did not necessarily imply the existence of either a uniform subsistence economy or a universal set of ideas and beliefs. In a more explicit sense than in the 1988 paper, material things were presented as transformative and performative, rather than as the products or consequences of action. The implication was that indigenous communities in Britain had used Neolithic resources to transform their own conditions of existence. This view was contrasted with the arguments of Sherratt (1995), who had suggested that megalithic tombs had functioned as 'instruments of conversion', recruiting Mesolithic communities into the Neolithic system. Material things did not merely attend the Neolithic: they were integral to the Neolithic way of life in the Atlantic zone (Thomas 1997: 58).

In a further contribution (Thomas 1996b), I extended this argument by discussing the circumstances under which the new, Atlantic Neolithic had developed in continental Europe. The emphasis fell upon the protracted encounter between farmers and hunters in areas such as western France and the North European Plain, and the consequent emergence of cultural hybridity, in the form of assemblages such as the Cerny and TRB. The apparent active involvement of Mesolithic groups in this process provided a further challenge to the idea that indigenous people had been the hapless victims of an oncoming agricultural onslaught. The ways in which native communities incorporated Neolithic innovations were often creative and idiosyncratic. For this reason, the cultural and economic diversity of Neolithic north-west Europe should be seen as rooted in the conditions of the Mesolithic. It is in the context of the emerging diversity of the hybrid Atlantic Neolithic that the adoption of domesticates might be considered. As in 1988, an integrated approach to different classes of evidence and aspects of human existence was advocated, rather than 'separating 'the economy' from other aspects of culture and social relations, as if subsistence practice developed purely in relation

to environmental conditions' (Thomas 1996b: 318). The significance of this will become apparent later in the chapter.

Finally, in 2003 I responded to a series of arguments that were then beginning to emerge, and which sought to reinstate aspects of more traditional explanations of the Neolithic transition in Britain. In the light of new forms of evidence such as stable isotope analysis of human bone to determine the composition of diet, these proposed either that the Neolithic had indeed been a fixed 'package' of traits, which had immediately replaced the Mesolithic assemblage without chronological overlap (Schulting 2000: 32), or that a sudden change of diet reflected the universal adoption of a mixed farming regime (Richards and Hedges 1999: 896). It was perhaps disappointing that the advent of promising new forms of investigation was not giving rise to more sophisticated interpretations, but to a call to re-embrace tried (and tired) perspectives. These views threatened a return to an unsubtle model of the Neolithic as characterized by a uniform economic base, in relation to which other aspects of culture were epiphenomenal. In particular, they suggested a willingness to isolate a single new class of evidence and elevate it above existing information, resulting in arguments that failed to do justice to the complexity of the situation.

As we have seen, the rapid onset of the British Neolithic had already been identified by Kinnes. However, the speed of change alone did not identify the character of transformation. Stable isotope analyses provide useful new insights into prehistoric diet, but there are limitations to the method (Lidén et al. 2004; Milner et al. 2004). Notably, while isotope values can distinguish between diets dominated by animal as opposed to plant protein, or by marine versus terrestrial foods, they obviously cannot separate wild from domesticated sources (see further discussion in Chapter Twelve). The pronounced shift from marine to terrestrial diets in coastal areas of Britain need not necessarily signal a change to a comprehensive reliance on domesticated resources. The abandonment of sea fish, shellfish, and seals might indicate that part (but not all) of the diet was now made up of cereals or meat from domesticated ungulates, or indeed that a cultural prohibition had been imposed of food from the sea (Thomas 2003: 69). If the latter, the rejection of marine foods might have been part of the assumption of a Neolithic identity that involved the repudiation of Mesolithic practices. The essential point was that alternative explanations could be put forward for the isotope evidence, and that the mixed farming interpretation had only hypothetical status.

One very important criticism of my arguments has recently been presented by Richard Bradley (2008). Bradley notes that since these publications emerged the development of single-entity dating and Bayesian statistics have allowed the construction of a radiocarbon chronology for the British Neolithic that compares in refinement to that for continental Europe. The consequence of this has been that the Early Neolithic of 'monumentality and mobility', in which a lack of evidence for settlement and cereal agriculture is combined with the building of large funerary and ceremonial structures, is revealed as characteristic of a mature phase of the period, *after* 3700 BC (Bradley 2008: 44). The initial Neolithic, from 4000 BC onwards, was distinguished by more extensive evidence for cereal agriculture, large timber buildings, the accumulation of substantial middens, an abrupt change in diet toward terrestrial foods, and the production of polished axes, especially at flint mines. Bradley proposes that the beginning of the Neolithic

in Britain and Ireland may have been much as Piggott and Case imagined it, but that agricultural settlement stalled after two or three hundred years, leading to the abandonment of sedentary agriculture. Bradley's explanations for the decline of mixed agriculture after 3700 BC are couched in the terms of stress models: disease, soil exhaustion, climatic change, crop pests, predators, territorial and resource conflict (2008: 46). The implication is that some form of crisis forced a change, so that the 'monumentality and mobility' Neolithic was a poor option, resorted to under duress. But it is possible to suggest the opposite: the accumulation of mobile wealth in a form that could be readily converted into social advantage was a strategy that communities increasingly found irresistible as the British Neolithic developed toward maturity.

In a more recent contribution, Vander Linden and Bradley (2011) expand on these ideas in a way that arguably exposes their limitations to a greater degree. They suggest that the beginning of the Neolithic in Britain was characterized by sustained deforestation, cereal agriculture, and house-dwelling, and a cultural pattern that was both geographically uniform and closely comparable with those on the continent. Only after this system of production collapsed did Britain diverge from the continental pattern, developing idiosyncratic economic and cultural practices (Vander Linden and Bradley 2011: 37). The problem with this argument is that it presents a picture of the earliest Neolithic that is both *static* and *stadial*: homogeneous over space and time until abruptly terminated by external factors. It holds that an exogenous Neolithic quickly established itself in Britain around 4000 BC, and proceeded with an agro-pastoral way of life for three hundred years, until afflicted by an agrarian crisis. At that point, it underwent an abrupt transformation to a mobile, livestock-based system. However, the more refined chronology provided by Bayesian analysis demonstrates that the beginning of the Neolithic in Britain was *not* synchronous, but began in south-east England before reaching western Wales and north-west Scotland three centuries later (Whittle, Healy, and Bayliss 2011: 868; see Chapter Seven). If by 3700 BC sustained agricultural activity in southern England was leading to soil exhaustion and crop disease, elsewhere it could barely have begun. How, then, could an island-wide crisis have led to universal social and economic change? In other words, Vander Linden and Bradley's argument is too neat, and neglects that any period of such profound change is likely to be characterized by instability, experiment, negotiation and general *messiness*.

There are also further problems with this account. On the basis of Alison Sheridan's arguments (see later in this chapter), Vander Linden and Bradley argue that a 'migratory flow from the continent is not in any doubt' (2011: 35; my translation). Yet while Sheridan's case is principally grounded on the perceived similarities between British and continental artefacts and monuments, Vander Linden and Bradley propose that a *lack* of precise European analogues for primary Neolithic material culture in Britain can be attributed to the amalgamation and recombination of the traditions of diverse groups (2011: 36). These views are mutually contradictory: if cultural difference is acknowledged, the grounds of the case for migration are weakened. Vander Linden and Bradley's attempt to substantiate the universality of house-dwelling in all areas other than Wessex during the primary Neolithic is also open to question. For not only were timber buildings not constructed and used throughout the whole period

4000–3700 BC in any part of Britain, the evidence cited for East Anglia consists of rectangular ‘gaps’ within pit-groups at Spong Hill, Kilverstone, and Hurst Fen (Vander Linden and Bradley 2011: 32). These may or may not represent houses built without post-holes, but they actually date to an entirely different period, after the introduction of Mildenhall Ware, and *subsequent to* the supposed agrarian crisis of the thirty-seventh century BC. They cannot then be used to substantiate the case for a sedentary primary Neolithic. Unquestionably, Bradley is correct to point out that developments in chronology now mean that we can identify a Primary Neolithic that is distinct from the era of causewayed enclosures, developed exchange networks and regionalized, decorated forms of bowl pottery. But it is far from clear that this earliest period can be characterized by the arrival of a continental population, who imposed a European system of agriculture on the island until defeated by natural obstacles.

THREE TYPES OF REVISIONISM: 1, GABRIEL COONEY

In their different ways, several archaeologists working during the 1980s and 1990s brought the traditional model of the Neolithic transition in Britain into question. The picture of a regionally-invariant pattern of sedentary mixed farming, established by migrants from the continent who brought new forms of material culture with them, supplanted the local Mesolithic groups, and only built monuments when a substantial agricultural surplus had been generated, was criticized in whole or in part from a series of perspectives (e.g. Barrett 1994; Whittle 1997; Bradley 1998; Pluciennik 1998; Edmonds 1999; Pollard 1999). I have dealt with only a minority of these here. In the past fifteen years an equally diverse set of revisionist perspectives have emerged, which argue for a return to all or part of the traditional view. However, while these have sometimes been represented (by some but not all of their proponents, and by others) as forming a single, coherent point of view, they are not merely distinct but in some cases mutually contradictory. This is largely because they seek to reinstate arguments from different stages in the history of debate that we have been evaluating in this chapter. Consequentially, they are grounded in entirely different sets of theoretical assumptions. In discussing these works, I will seek to identify the contrasts between them.

One important set of contributions, which reflect only indirectly on the change from Mesolithic to Neolithic, were presented by Gabriel Cooney (1997, 2000a, 2000b, 2001, 2003). Cooney’s point of departure was the contrast between the Neolithic archaeology of Ireland, with which he was most familiar, and recent arguments concerning Neolithic settlement and economy developed in the context of southern Britain. In Ireland, there was strong and growing evidence of permanent domestic architecture from the start of the Neolithic, as well as early field boundaries, and together these implied a close attachment between people and place, and the development of physically structured and bounded landscapes (Cooney 1997: 23, 2003: 50). Yet in the arguments of British archaeologists this evidence was presented as atypical or peripheral. Cooney’s reaction to this state of affairs was paradoxical, for he proceeded to develop simultaneously two rather different arguments. Firstly, in common with contributions that were being

presented at much the same time by Gordon Barclay (2001, 2004), he pointed to the central position that the archaeology of Wessex and Sussex (and to a lesser extent Orkney) had been afforded in the writing of the Neolithic of the entire northwest European archipelago. These regions were assumed to represent a 'core', in relation to which other areas were peripheral, and the importance of their material records were downgraded accordingly. Thus, if the evidence from the Early Neolithic in southern England indicated continuity from Mesolithic to Neolithic, ephemeral dwelling structures, the movement of livestock between seasonal grazing areas, and the use of monuments as fixed points within cycles of mobility, it was implicitly accepted that the same had been the case in Ireland and Scotland (Cooney 2000a: 50).

Cooney objected that in pre-state, non-industrial societies the notion of a 'primary' core region was inappropriate, and that we should not expect to find similar material conditions throughout north-west Europe, or throughout Britain and Ireland (1997: 29). Moreover, he went on to suggest not only that there had been contrasts between and within the two islands during the Neolithic, but equally that these had been grounded in differences that had existed during the Mesolithic (1997: 26). While the British Mesolithic had shown an emphasis on hunting, that of Ireland had concentrated on fishing and gathering, and had been characterized by a distinctive, island-wide lithic technology (Kimball 2000: 31). The absence of large ungulates in the Irish pattern might have made it more difficult for indigenous Irish populations to incorporate husbandry into their way of life, and this may have given the Mesolithic-Neolithic transition a distinctive character. Indeed, drawing on terms from the archaeology of the Pacific, he went on to suggest that the flora and fauna that were introduced to Ireland at the start of the Neolithic amounted to a 'transported landscape' (Cooney 2003: 48).

This aspect of Cooney's critique is highly cogent. It is fair to say that the desire to deconstruct the traditional view of the Neolithic sometimes compromised the avowed emphasis on diversity and variability (as, for instance, in Thomas 1993). However, Cooney also seems at times to be proposing that the evidence for sedentism and cultivation in Ireland invalidates the 'mobility model' in general. Thus, for instance, he argued in one publication (Cooney 2001: 167) that the emphasis on movement, pathways and cyclicity in the work of many British prehistorians is a function of their rootless, nomadic, post-modern existence. This brings him dangerously close to asserting the universality of a primordial 'peasant' existence, so that metropolitan and rural ways of life are rendered as essential and archetypal opposites. Ironically, the 'sedentarist metaphysics' that valorizes and affords ethical worth to an authentic, 'rooted', organic existence, and views mobile people in fundamentally negative terms, has itself been linked to post-modern nostalgia, as much as to reactionary conservatism (Malkki 1992: 31; Cresswell 2002: 11). In the same article, Cooney more helpfully emphasizes the role of nationalism in constructing our images of the Neolithic. Quite correctly, he points out that English archaeologists often assume that nationalism is something that afflicts their colleagues from the Celtic fringe, but from which they are themselves immune. De Valera's (1960) desire to see court tombs as derived directly and exclusively from French prototypes demonstrates an imperative to dissociate the Irish Neolithic from the British (Waddell 1978; Woodman 1995).

Any theory which held that megalithic court cairns diffused westward from south-west Scotland through Carlingford Lough to the west of Ireland (Evans) might be regarded as unionist; the converse in which court cairns spread from Killala Bay, County Mayo, across Ireland north of the central plain into south-west Scotland and the Isle of Man (de Valera) could equally be seen as nationalist in intent.

(Graham 1994: 185)

But it is arguable that the influence of nationalism has been just as pervasive (yet more hidden) in England. As David Lowenthal has argued (1994: 20), English nationalism is rarely manifested in an attachment to the flag, national dress, or specific symbols. Instead, national feeling shows itself in a sense of insularity, artifice, stability, and order which are represented by the 'timeless', 'natural', English landscape of rustic cottages, tangled hedgerows, sleepy inns, and village greens. This landscape, steeped in tradition, is conventionally opposed to the city, with its flighty, immoral, cosmopolitan ways (Williams 1975: 259). Arguably, this 'scenic nationalism' underlay the belief that the Neolithic saw the creation of an agricultural landscape that has changed only by increment over the subsequent six thousand years, as we have seen particularly clearly in the works of Jacquetta Hawkes. *Contra* Cooney, then, English nationalism was formative of the *traditional* view of the British Neolithic, rather than its critique.

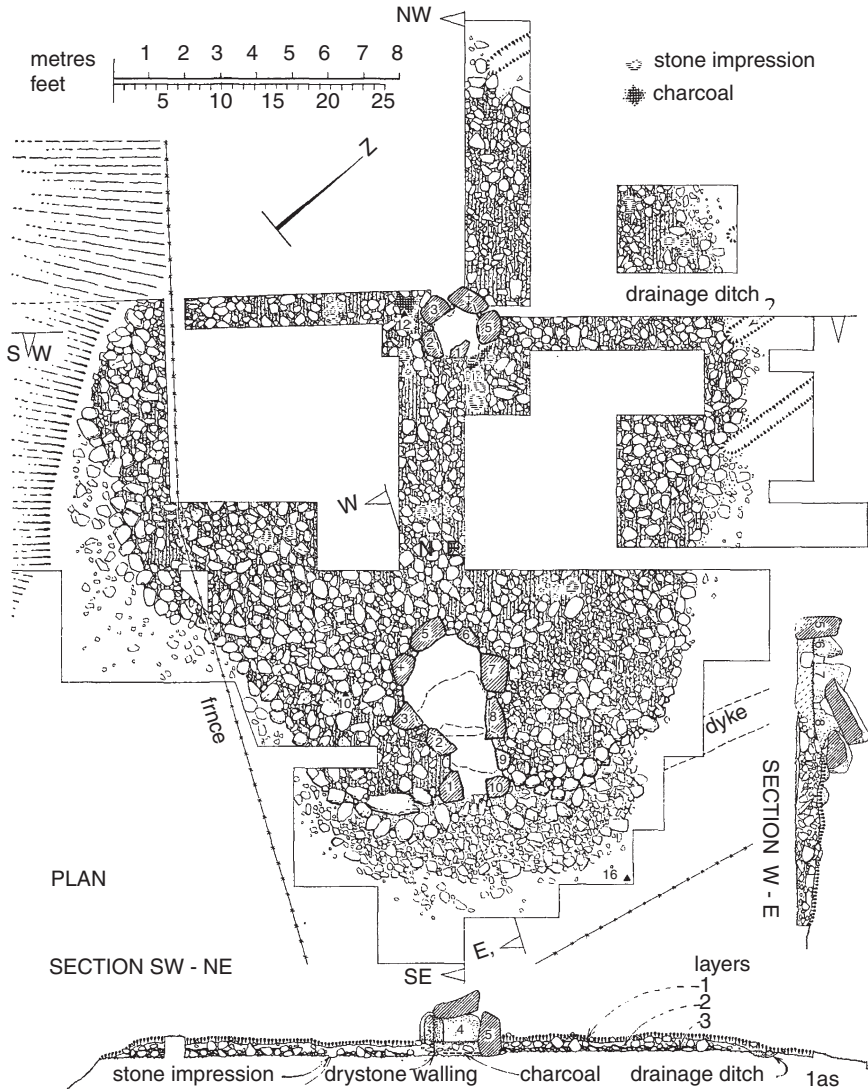
There is an ambiguity, then, to Gabriel Cooney's commentary on the formation of Neolithic landscapes in Britain and Ireland. He can be read as arguing that there was diversity throughout both islands, manifested in social organization, cultural expression, and economic practice, and that this diversity was underlain by variation that had existed in the Mesolithic. But equally, his emphasis on the rooted, place-bound identities of Neolithic Ireland and their agricultural basis sometimes seem to be implicitly extended to southern England, effectively reversing and mirroring the intellectual colonialism with which he charges British archaeologists. Thus, his arguments concerning the importance of cereals in Neolithic Ireland appears to apply to Britain as well (Cooney 2003: 49). This is certainly the message that Mick Monk (2000) seems to have taken from his works: if models developed in the context of Wessex are inappropriate for Ireland, then models developed for Ireland should be imposed wholesale on England, Scotland and Wales. It was at this point that the drive to resuscitate a selection of moribund ideas about the Neolithic was initiated.

THREE TYPES OF REVISIONISM: 2, ALISON SHERIDAN

While Cooney has principally been concerned with the occupation of the landscape and issues of national intellectual tradition, a very different perspective has been offered by Alison Sheridan. In a series of contributions, she has urged a return to Stuart Piggott's vision of a maritime colonization of Britain conducted by Neolithic groups from diverse parts of France and Belgium (2000, 2003a, 2003b, 2004, 2005, 2007a, 2010a, 2010b, 2012a; Pailleur and Sheridan 2009; Sheridan and Pailleur 2011). Initially, her argument was that so swift and homogeneous were the changes of material culture at the beginning of the Neolithic that

they could only be accounted for by the arrival of very significant numbers of people who shared a continental ancestry (Sheridan 2003a: 4, 2004: 9). Over the following decade, her perspective shifted, to accommodate the idea that the Neolithization of Britain involved four separate episodes, which might only have involved small numbers of people. Each of these took place at a different time and originated in a different area (Sheridan 2010a: 191). This emphasis on the 'multi-stranded' character of the process is undoubtedly one of the strengths of her approach. However, the various 'strands' are presented as retaining their separate identities after their arrival in Britain, where it might be argued that they were from the start braided and intertwined. This is perhaps because the framework of her investigation retains aspects of traditional culture history. Sheridan's work is impeccable in its attention to detail and its control of artefactual and architectural evidence. But her arguments rely heavily on formal similarities between artefacts and structures in different geographical areas. Further, she appears to hold a view of cultural traditions as relatively fixed, hermetic and mutually exclusive. This is especially evident in her discussion of the carinated pottery bowls from the Broadsands chambered tomb and the Sweet Track (Sheridan et al. 2008: 18–19; Sheridan 2010b: 101, 2012b: 264). These she argues to be of Norman origin, ultimately derived from the Chasséen of the Paris Basin, and thus quite distinct from the Carinated Bowl Neolithic of eastern Britain and Ireland. The Sweet Track vessels are distinguished by the application of a black coating, which would later be observed in the Hembury Ware of south-west England, and this would seem to connect them with a western strand of cultural development. However, the vessel forms represented amongst these assemblages are similar to those found elsewhere in the islands, yet Sheridan insists that they must be attributed to a single cultural tradition, with an exclusive pedigree. This indicates a view of material culture in which an artisan routinely replicates a set of inherited norms, which are the prerogative of a specific human group. Individual traits may be absorbed through cultural contact, but the tradition proceeds in a linear fashion through time, maintaining a stable relationship to its host community. This implicitly rejects the view that the making of material things is essentially a creative improvisation, which reproduces traditions by drawing on precedent, yet may incorporate borrowed ideas or generate innovations (Ingold and Hallam 2007: 2). Culture history therefore identifies artefacts as the enduring material signatures of distinct and mutually exclusive human groups (Jones and Richards 2000: 102). Moreover, the typology and classification of artefacts and monuments represents the means of identifying social groups in the past, and of inferring the chronological relations between spatially remote entities (Brophy 2005: 7). The resulting picture is one that recalls Childe's vision of cultural descent with only the most limited of modification, and is remote from the vision of cultural plasticity that we have seen proposed by Bradley and Vander Linden. This perhaps explains why Sheridan not only emphasizes migration as the principal mechanism for the inception of the British Neolithic, but also identifies each definable cultural current as a distinct and separate population movement.

Sheridan's arguments first manifested themselves in the context of a reconsideration of excavations at Achnacreebeag, a small passage tomb in Argyll (Ritchie 1969) (Fig. 5.6). A series of factors were presented as indicating that Achnacreebeag and its artefactual assemblage are representative of an intrusive Breton



the emergence of more extensive networks of inter-regional interaction (Sheridan 2004: 12; Pailler and Sheridan 2009: 47). The overall process was thus one of communities who shared a broad cultural inheritance first colonizing a wide area, and then continuing to develop their material assemblages through sustained medium- and long-distance relationships.

Sheridan has offered a series of reasons why a rapid process of colonization from continental Europe can best explain the beginning of the British Neolithic. Firstly, there was no Mesolithic precedent for the artefacts, monuments and funerary practice that appeared more or less contemporaneously throughout much of Britain and Ireland (Sheridan 2004: 10). There was a marked disparity between the new artefact types and the preceding Mesolithic assemblage, while the Neolithic 'package' was comparatively consistent in character and quality over large areas. Secondly, there is little evidence for contacts across either the Irish Sea or the English Channel during the Late Mesolithic, which would have enabled indigenous people to gain access to cultural innovations and new ways of life (Sheridan 2003a: 4). Although Sheridan acknowledges the mobility of Mesolithic communities, she finds no reason why they should travel to the continent in order to acquire new technologies and practices, and such travel would be fraught with difficulty (2000: 13; Sheridan and Pailler 2011: 14). While she recognizes that hunters and gatherers adopted Neolithic ways of life through acculturation within continental Europe, this was only ever achieved when there was direct overland contact with farming groups, and not where a body of water interceded between the two. The comparison with continental developments is therefore 'inappropriate' (2010b: 90). Thirdly, there is a disparity between the spatial distribution of Neolithic settlements and Mesolithic activity areas (Sheridan 2007a: 466). Finally, there is no single factor (such as an environmental change) to explain why the Mesolithic population of Britain should suddenly and simultaneously choose to adopt Neolithic material culture, and a new way of life (Sheridan 2007a: 466).

Some of these points can immediately be questioned. The disparity between Mesolithic and Neolithic artefacts and practices is only to be expected if new cultural forms and domesticated species were acquired through contact, rather than being generated independently, and their adoption was associated with significant changes in social organisation, subsistence practice, and the expression of identity. Sheridan's view of cross-Channel contact, exemplified in her image of a group of hunter-gatherers sailing from Sligo to France and returning with an entire Neolithic way of life (2010b: 90), relies on the belief that any interaction between British and continental communities must have been extremely rare, rather than a routine feature of established relationships that were maintained over the long term. So irrespective of whether the protagonists were Mesolithic venturers or Neolithic colonists, they must have been heading into *terra incognita*. As we will see, the belief that the islands were culturally isolated until the arrival of Neolithic migrants has been a consistent element in Sheridan's arguments. But this adds further difficulties for her own proposed scenario, because relocation into an entirely unknown territory is a rather more risky strategy for agriculturalists than for hunter-gatherers (Robb 2013). Attempting to reproduce domesticated plants and animals in an unfamiliar ecosystem has often resulted in migrants being annihilated in the first winter, even when they are supported by

the resources of modern states (Blanton 2003: 191). This is something that farmers are unlikely to attempt unless they are forced by dire circumstances.

The statement that Neolithization never took place across open water is simply incorrect: Zealand, southern Sweden, Bornholm, and Gotland are all areas in which hunter-gatherers acquired Neolithic novelties by sea. As we have already noted, the advent of the Neolithic in Britain now seems to have been less sudden than either Sheridan or the present author would have supposed a decade ago, taking some centuries to spread from one end of the landmass to the other. But the problem of the *disappearance* of the Mesolithic assemblage is one that Sheridan appears to struggle with. Her earlier contributions avoided the issue, but eventually she began to argue that the indigenous population of Britain were absorbed or acculturated once Neolithic people had arrived by sea.

One clear possibility, given the paucity of evidence for the survival of recognisably 'Mesolithic' traditions... after 4000 BC, is that indigenous groups 'bought into' the new lifestyle fairly rapidly once the 'Carinated Bowl Neolithic' appeared. (Sheridan 2010a: 191)

Indigenous acculturation is therefore regarded as a subsequent development from, rather than a prime mover of, the introduction of novel traditions and practices (Sheridan 2010b: 89).

But this position only increased her reliance on the notion of the island's seclusion in the Late Mesolithic. For if Mesolithic people were disposed to adopt Neolithic innovations soon after their appearance on the coast (rather than having actively resisted them for an appreciable period), we have to ask what prevented them from doing so when they were only twenty miles away across the sea. Sheridan's answer appeared to be both that they were ignorant of the farming communities that had settled themselves on the other side of the Channel, and that the transfer of animals, plants and new cultural media over the sea required the superior organizational skills of Neolithic people. Yet there is growing material evidence for Mesolithic contacts across the Irish Sea, in the form of Irish-styled lithic artefacts identified in south-west Scotland (Cobb 2007: 254). This demonstrates that indigenous British or Irish hunter-gatherers were capable of marine navigation. More recently, Sheridan appears to have reverted to the view that the fate of the indigenous population 'remains a mystery', and has begun to hint that they may have succumbed to 'introduced diseases' (2012a). The difficulties raised by this lack of clarity over the relationship between Neolithic migrants and Mesolithic indigenes will be explored later in this section. Finally, although there may be a disjuncture between Mesolithic and Neolithic settlement patterns in Ireland, on the British mainland there is substantial evidence of locations of Mesolithic occupation continuing to be frequented during the Early Neolithic (Thomas 2007a: 432; and see Chapter Seven). Although Sheridan claims that episodes of Mesolithic and Neolithic activity at any given site are 'often separated by well over a millennium' (2010b: 90; 2012a), as at Glecknabae or Warren Field, this is often not the case. The introduction of Neolithic human remains into shell middens in the west of Scotland is an example in which a clear effort was made to assert links with hunter-gatherer ancestors (Warren 2007: 323). While in some cases, as at Raschoile Cave, the gap between midden formation and bone deposition was very great indeed, at Carding Mill Bay it may have been a matter of less

than a century (Schulting and Richards 2002: 149). The re-use of Mesolithic locations was therefore potentially a matter of social memory, rather than of coincidence (and see further examples in Chapter Six).

The earliest of Sheridan's four proposed episodes of the Neolithic colonization of Britain and Ireland was what she refers to as a 'false start' in County Kerry. Seven bones of domesticated cattle securely stratified in the Mesolithic site at Ferriter's Cove (Woodman, Anderson, and Findlay 1999: 122) represent the most credible of a number of examples of pre-Neolithic domesticates in Ireland (discussed at greater length in Chapter Eight). Two of these had produced radiocarbon dates in the fifth millennium cal. BC, although the older of the two is now questionable owing to the charring of the bone (Sheridan 2010b: 92). Woodman and McCarthy (2003: 33) argue that whatever the status of the other early cattle and sheep remains in Ireland, the Ferriter's Cove material can be connected with Mesolithic activity. Sheridan proposes that the presence of these bones can best be explained by a small-scale migration on the part of pioneering farmers who brought cattle with them from western France. Some of the cattle had later escaped and been slain by the local Mesolithic population, and the precocious Neolithic settlements had then failed and disappeared without trace (Sheridan 2010b: 92). The faunal remains from Ferriter's Cove are therefore attributed to a discrete episode of Neolithic colonization rather than more extensive contact, and the role of Mesolithic people is restricted to hunting down the escaped cattle. Similarly, Anne Tresset (2003: 25) argues that:

Given what we already know about Ireland's Late Mesolithic inhabitants, with their relatively insular horizon, it would appear wholly far-fetched to posit that local Mesolithic groups sailed to the continent and brought back domesticated animals.

But what exactly makes this so far-fetched? Why is it necessary to hypothesise the existence of a group of otherwise archaeologically invisible Neolithic colonists rather than entertain the possibility of routine maritime contacts between Mesolithic and Neolithic people? We have seen already that there is a recurring prejudice against hunters and gatherers, which casts them as technologically or intellectually inferior, or lacking in Jacquetta Hawkes' 'pioneer spirit'. But Sheridan focuses more on the material evidence for maritime contact. First she points out that there are no traces of Irish Mesolithic material culture known anywhere in France (Sheridan 2010b: 92). However, one might object that there is equally little Ertebølle material culture from anywhere in central Europe, although the shafthole adzes and perforated wedges that undoubtedly found their way into southern Scandinavia were probably exchanged for furs or marriage partners that are difficult to detect archaeologically (Zvelebil 1996: 335). Secondly, Sheridan notes that there is no positive evidence that the population at Ferriter's Cove were seagoing mariners, as all of the fish-bones from the site are from species that could be taken from inshore waters (McCarthy 1999: 89). Conversely, the presence of variscite beads and fibrolite axes from Iberia in Breton tumuli may indicate that French Neolithic groups did go on long-distance sea voyages (Sheridan and Pailler 2011: 14). None the less, these objects could have been transported overland, while the sea route could have been negotiated by coastal tramping around the Bay of Biscay, without taking to the open sea. The argument for French Neolithic mariners is therefore not conclusive, and as we will see in Chapter Eight, there

is extensive evidence from elsewhere in Europe that Mesolithic people did travel considerable distances by boat. There is no compelling reason to presume that British hunter-fisher-gatherers were less competent at sea than their continental equivalents.

Sheridan's second episode of migration, potentially overlapping with the first, is presented as a movement of population from southern Brittany into the areas surrounding the Irish Sea in the period between 4300 and 4000 BC, exemplified by the Achnacreebeag chambered tomb. Her claim for the importance of the site is that it represents an early stage of both the Irish-British passage-grave tradition and the Beacharra Ware pottery style of western Scotland and Ireland (2000: 12). The tomb had a central closed chamber, succeeded by a small, polygonal, orthostatic passage-grave with a massive cap-stone (Ritchie 1969: 35). Both closed cists and polygonally chambered passage-tombs are known in southern Brittany, but not concurrently, and Sheridan speculates that the migration might have taken place during a period of overlap between the two (2003a: 10). The problem with this is that the change may not have been a matter of shifting architectural fashion, but of incompatible social and symbolic frameworks (Cassen et al. 2011: 230). Three pottery vessels were found beneath the blocking of the passage-grave chamber. One was a small closed carinated bowl, with an everted, thickened rim, and decorated with a motif of nested arcs and a series of vertical incisions immediately below the carination (Ritchie 1969: 47). It is somewhat atypical as an example of Beacharra Ware (Fig. 5.7). Sheridan compared this with late Castellic Ware from Armorica, and in particular a pot from the simple passage-grave at Vierville in Normandy (Verron 1976; Sheridan 2000: 6). A second vessel was more fragmentary, and while it was originally identified as a Food Vessel, Sheridan points out that the decoration bracketing the raised cordon is not cord, but a series of stab impressions. Her suggestion is that this is Pinnacle Ware, another Armorican Neolithic pottery style (Sheridan 2000: 7). The third pot is still more incomplete, but is argued to also be of potential northwest French affinity (Sheridan 2010b: 92).

The similarity between the Achnacreebeag and Vierville decorated bowls is strong, and the hypothesis that the former represents an early stage in a distinctive ceramic tradition in the Irish Sea zone is intriguing. Castellic pottery emerged in the post-LBK 'Cerny horizon' and is associated with *tertre tumulaires* and Carnac mounds in the Morbihan (Boujot and Cassen 1993: 483). Hamon (2009: 23) suggests that Castellic pottery may have had a particular role in ceremonial

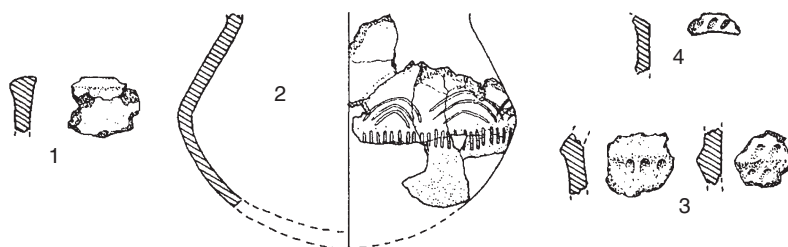


Fig. 5.7. The earlier Neolithic pottery from Achnacreebeag (after Ritchie 1969, with the kind permission of the Society of Antiquaries of Scotland)

practices and the use of monumental structures, and this may have afforded it a distinctive importance and value. The later form of Castellec Ware has been found in a small number of chambered tombs, and at the Table des Marchands at Locmariaquer it was stratified beneath the mound of the passage grave (Cassen and L'Helgouac'h 1992: 225). Letterle (1992: 190) places Late Castellec at the transition between the Breton Middle Neolithic I and Middle Neolithic II, at around 4350–4250 BC, although Cassen (2000a) argues that it was current between 4300 and 4000 BC. More recent Bayesian analysis of the radiocarbon dates for late Castellec pottery suggests that it may have remained in use until 4030–3770 cal. BC (at 70 per cent confidence) (Whittle, Healy, and Bayliss 2011: 850). Pinnacle Ware is another Cerny-equivalent belonging to MNI, occurring for instance at Les Fouaillages in Guernsey (Patton 1992: 150; Boujot and Cassen 1993: 483), although it was present alongside late Castellec pottery at the Table des Marchands. As the latter was probably constructed after 4000 BC, if we were to assume that the Achnacreebeag assemblage is of Breton origin or inspiration, it might date to anywhere in the interval 4300–3900 BC, and possibly even later.

The monument at Achnacreebeag is perhaps less distinctive than the ceramics, and its affinity with structures in the Morbihan is generic rather than diagnostic. The two passage-tombs that produced Late Castellec pottery, Vierville and Kerlagat, both have circular chambers and corbelled roofs, which Cassen (1993b: 200) identifies as an early trait. New radiocarbon dates from Vierville indicate that the monument was in use between 4350 and 4050 BC (Pailler and Sheridan 2009: 34). Boujot and Cassen (1992, 1993; Cassen 1993b: 205) argue that polygonal chambers with megalithic capstones emerged after 4100 BC, and were associated with the use of Chassey-related ceramic styles, such as Carn, Le Souc'h, and Cous. Scarre, however, takes the view that circular and polygonal chambers, corbelling and capstones were all contemporary, occurring together at Barnenez (Scarre 2011: 139). As we saw in Chapter Three, in southern Brittany closed chambers were a feature of the long mounds of the mid-fifth millennium BC, and passage graves replaced them, sometimes inserted into the same monuments as at Mané-Lud and Saint Michel (Boujot and Cassen 1992: 201). It is hard to imagine why this historical sequence should have been recapitulated by Breton migrants arriving in western Scotland.

If Achnacreebeag and other Welsh and Scottish passage tombs that share a loose affinity with Breton monuments were built by colonists from Armorica in the fifth millennium BC, they exist in an archaeological vacuum. In their immediate vicinity there are no pits, hearths, dwelling structures, or occupation sites stratified beneath later features that have produced either 'Breton' pottery or fifth millennium radiocarbon dates. Nor are there any surface scatters that have produced diagnostically 'Breton' artefacts. The argument demands that migrant communities that were numerous enough to have raised large megalithic structures had no other perceptible impact on the landscape. Further, if the Achnacreebeag bowl is genuinely ancestral to the Beacharra tradition, there would seem to have been a gap of as much as half a millennium between this single vessel and its stylistic progeny. Other Beacharra vessels are known principally from Clyde long cairns, and from the settlement site of Townhead, Rothesay, where it is associated with Grooved Ware (Kinnes 1985: 148). The Bayesian analysis of Whittle, Healy, and Bayliss (2011: 851) places the arrival of the Neolithic in

western Scotland in the thirty-eighth century BC, and in west Wales a little later. Neither the tombs themselves, nor any other sites in their respective regions have produced credible radiocarbon determinations earlier than this. There is an obvious danger in comparing monuments and artefacts in remote locations, and presuming their contemporaneity, especially where only small numbers of entities are involved. This was precisely the failing of cross-dating, which relied on the typological similarities of artefacts to establish pan-regional chronologies linking barbarian Europe with the literate Mediterranean (Trigger 1989: 170–1). The introduction of radiometric dating revealed the system as fundamentally flawed. If small passage tombs in western Britain were not built by Breton colonists, but simply created through the emulation of continental examples, they might have been much later than the forty-second century BC, forming an integral part of the Neolithization of their own regions. If the Achnacreebeag pottery is indeed of Breton origin or affinity, it might easily have been the product of long-distance contact in the thirty-eighth century BC, when Castellet Ware at least may still have been in production. The special status of this pottery might have rendered it suitable as a prestige good, an item of long-term curation, or an object of emulation. In this connection it is significant that a pot very similar to the Achnacreebeag bowl has recently been recovered from a mid-fourth millennium BC context in a Clyde cairn at Blashill on Kintyre (Vicky Cummings and Rick Peterson, pers. comm.).

To explain the spread of Breton population by sea in the late fifth millennium BC, Sheridan (2003: 14) invoked Serge Cassen's (2000b: 243, 2005: 202) recent arguments concerning changing modes of representation and monumentality in Neolithic Brittany. Cassen suggests that the long mounds and decorated menhirs emerged before agricultural production had been fully established in Brittany, and were constructed by local hunter-gatherers who were dominated by an incipient social elite. This elite had built their position on the circulation of prestige items acquired initially through contacts with agricultural communities, yet they resisted assimilation into a fully Neolithic way of life through the deployment of an aggressively masculine symbolism. However, this resistance was temporary, and the 'hypervirile' 'neo-Neolithic' was replaced by a structure focused on women, fertility, biological reproduction and agricultural production, manifested in the womb-symbolism of the passage-grave. The deliberate destruction of many decorated menhirs, and their re-use as capstones in passage-graves, demonstrates the way that the new social order absorbed and incorporated the old. Sheridan suggests that in the resulting period of social dislocation, Breton groups who already had a knowledge of marine navigation from their involvement in deep-sea fishing and maritime trade with Iberia might have sought new homes in western Britain (2003: 14). Equally, the presence of the Late Castellet bowl from the Vierville tomb is also attributed to population movement out of Brittany (Sheridan 2010b: 95). However, it is not clear why people who had been traumatized by the introduction of agriculture and passage-graves should seek to reproduce *precisely these same things* in western Scotland. If they were clinging to the old order, why did they not build *tertre tumulaires* and decorated menhirs in Argyll?

On the basis of the idea of a Breton population dispersal, Sheridan proposes that the distribution of small megalithic tombs with closed chambers and simple

passage-graves in the Irish Sea zone represents the formation of a maritime diaspora (2000: 12). Another suggested manifestation of this process is the simple passage tomb of Carreg Samson in south-west Wales (Lynch 1975). Here, Sheridan argues that the open bowl found beneath the chamber floor is out of keeping with other Welsh Neolithic pottery, and comparable with Armorican Middle Neolithic II wares (Sheridan 2010a: 194). However, the open profile and flattened base of this vessel do find a broad parallel in SF167 from the timber hall at Parc Bryn Cegin, near Bangor, albeit with a more developed rim (Kenney 2008: 23–4). In Ireland, simple passage tombs and closed chambers often acquired a boulder kerb that is rare in Brittany or western Britain, and more common in northern Europe (Midgley 2008: 98). Equally, the Irish funerary rite of cremation is one that is scarce in Brittany (Sheridan 2003b: 14). The simple Irish passage tombs and closed chamber monuments have a predominantly northern and coastal distribution, yet the radiocarbon dates from Carrowmore, which have been read as supporting a relatively early horizon for such structures (Scarre et al. 2003: 69), have recently fallen into question. We will discuss this issue further in Chapter Ten, but it is sufficient to say that the Carrowmore dates are largely drawn from unidentified charcoal not clearly associated with the construction of the tombs, and are best used only as *termini post quos*. Dates on short-life material from Carrowmore 56 are concentrated in the later fourth millennium BC. The artefacts from the chambers of these structures, such as Carrowkeel pottery, are not characteristic of the earliest Neolithic, and new dates on the bone and antler pins from the tombs support a currency in the mid to late fourth millennium BC (Bergh and Hensey 2013; Whittle, Healy, and Bayliss 2011: 654; but see Chapter Ten for the counter-argument that primary chamber fills may have been removed). At Carrowmore, the difficulties of arguing for a fifth millennium context for passage tombs are even more intense, for here over eighty tombs were constructed without any other evidence for a ‘Breton’ presence (Bergh 1995: 41).

Potentially the most significant of the influxes of population that Sheridan identifies is what she originally characterized as the ‘cross-Channel east’ relationship (2004: 10), and more recently as the ‘Carinated Bowl Neolithic’ (2007a). This contrasts with both the Ferriter’s Cove episode and the ‘Breton’ Neolithic in being represented by a wide range of material phenomena: a distinctive style of ceramics; new types of stone tools; rectangular timber buildings; a suite of funerary practices; deep-shaft flint mines; domesticated animals and cereals. Most, but not all of these can be paralleled in north-east France and Belgium, but no known region on the continent has yet revealed the entire assemblage. The phenomenon is named after the fine, round-based bowls with concave necks which form a major part of the ceramic repertoire, together with s-profiled and hemispherical bowls, collared jars and simple cups (Sheridan 2010b: 95). New lithic types include leaf-shaped arrowheads, ground and polished axes, and plano-convex knives. The large timber halls are recognized as belonging only to the earliest part of the Neolithic, and this is attributed to their role as collective shelters for groups of migrant families during a period of ‘pioneer consolidation’ (Sheridan and Pailleur 2011: 18). Funerary facilities included cave burial, single graves, linear mortuary structures, cremation cemeteries beneath round or ring cairns and rectilinear enclosures which may have had a mortuary role (Sheridan 2010b: 98). Only the first two of these are known in Middle Neolithic contexts in Belgium and

northeast France, although Sheridan points to the existence of a possible long mound at Ottenburg in the Scheldt Basin (2007a: 469). However, parallels with linear chambers and long barrows in southern Scandinavia are more numerous and more precise (Madsen 1979) (see Chapter Ten for further discussion). Sheridan also drew attention to Anne Tresset's work on faunal remains (2000, 2003), which indicates that there are similarities in the patterns of animal husbandry and consumption found on Neolithic sites on either side of the English Channel. Yet this comparison has only marginal bearing on the character of the earliest Neolithic, since the majority of the British sites that Tresset discusses are causewayed enclosures (Windmill Hill, Maiden Castle, Bury Hill, and Staines), dating to the thirty-seventh century BC at the very earliest.

Sheridan seeks the origin of the Carinated Bowl Neolithic in an as-yet undiscovered regional Middle Neolithic group located somewhere in the Nord-Pas-de-Calais and northern Picardie, comparable in scale and character to the Spiere group of the Scheldt Basin (Sheridan 2010b: 99). The immediate question that this raises is why this particular small group colonized much of Britain and Ireland, and why other continental communities were not involved. As Sheridan quite rightly argues, the British Carinated Bowl vessels of the early fourth millennium BC would be 'quite at home' in the Chasseo-Michelsberg assemblages of northern France (2012a). But the problem is that in most of these assemblages carinated bowls occur as a minor element, alongside many other vessel forms, some of which are not found in Britain at all (see Chapter Eleven). The 'small regional group' in the Nord-Pas-de-Calais is perhaps a *deus ex machina* intended to resolve this issue. However, recent work has extended the distribution of material related to the Spiere group (whose pottery contains very few carinated bowls) out of the Scheldt and into the Nord-Pas-de-Calais (Bostyn et al. 2011: 57). This means that the space in which a continental predecessor of the Carinated Bowl Neolithic might be located is apparently filling up. The alternative to the search for such an entity is to argue that the carinated bowl was a distinctive vessel form that was shared by a number of different social groups in France, Belgium, and Holland, and that it was appropriated by the earliest Neolithic communities in Britain, in much the same way as a restricted range of vessel forms was adopted by the newly-aculturated indigenous groups on the Dutch sands at much the same time (Verhart 2000: 230).

The 'diasporic' migration of the Carinated Bowl Neolithic groups across the English Channel and the North Sea is claimed to have been initiated by two related processes: the reorganization of settlement that accompanied the emergence of the Michelsberg, and growing demographic pressure in the Paris Basin, causing northward movement (Sheridan 2010a: 199, 2012a). There are problems with this argument, however. Louwe Kooijmans (2007: 297) contends that the uptake of land to the south of the North Sea from around 4300 BC was not driven by population increase, but represented a reorganization of the occupied landscape to take in a wider range of habitats, as former hunter-gatherers were incorporated into the emerging Michelsberg/Spiere pattern (see Chapter Three). He argues that the Michelsberg, like the TRB, was a cultural and economic framework that accommodated both Mesolithic and Neolithic communities. Moreover, if the Carinated Bowl groups had been pushed out toward Britain by this process, we would expect their migration to have taken place shortly after

4300 BC, and not at around 4000 BC. By 4000 BC, both the Spiere group and the Rhineland Michelsberg were on the wane, at least as far as the radiocarbon record is concerned (Bostyn et al. 2011: 69; Louwe Kooijmans 2011: 131). But the picture of a burst of population relocation forced by overpopulation does not in any case fit well with the most extensive analysis of the radiocarbon evidence to date, which suggests that the earliest Neolithic activity in Britain took place in the areas surrounding the Thames Estuary in the forty-first century BC, and underwent a prolonged period of consolidation in southern England before extending into the south-west peninsula, northern England, Scotland, Wales, and Ireland from around 3800 BC (Whittle, Healy, and Bayliss 2011: 729). Sheridan casts some doubt on the Bayesian methodology that produced these results (2012a), but also suggests that the pattern might have been generated by two 'waves' of migration: a first small-scale movement into south-east England, followed by a larger scale and rapid diasporic expansion from northeast France into much of Britain and Ireland (2010b: 98). There would seem to be a tension between this picture and her insistence elsewhere that only small numbers of colonists were involved (2010b: 90). It also implies a very great depth of time between the arrival of Carinated Bowl migrants in Scotland and Ireland and the continental events that ostensibly drove them to the sea.

If the Carinated Bowl dispersal was indeed a diasporic movement of small family groups, the archaeological evidence is somewhat at odds with the pattern that would be expected from such a process. In Atlantic Portugal, where there is a strong case that groups of agriculturalists arrived by sea, these formed a series of small enclave settlement areas spread out along the coast, co-existing with nearby hunter-gatherers for some centuries before expanding inland (see Chapter Two above). There is no indication of such long-lived coastal enclaves in northern Britain: rather the opposite pattern of a few isolated hunter-gatherer groups choosing to retain their traditional way of life during the earlier fourth millennium BC (Mithen 2007: 518). One of the reasons for the Portuguese pattern lies in demographics: Old World Neolithic societies have been calculated to have had a rate of population rise of 0.1 per cent per year, or to have doubled in size in 693 years (Ammerman, Cavalli-Sforza, and Wagener 1976: 29–30; Hassan 1981: 221). These may be conservative estimates, but they demonstrate that it would have been difficult for a very small influx to have displaced the Mesolithic population of northern Britain in a century or so. This leaves three possibilities: the colonists may have been very numerous, and eliminated the indigenes (an option that Sheridan has repeatedly disavowed); the native population may have been swiftly absorbed into Neolithic groups; or they may have been wiped out by disease, leaving the newcomers to advance into an empty landscape. As we have seen in Chapter Four, the last of these options is relatively implausible. If new pathogens had been generated through contact between humans and domesticated animals in western Asia or south-east Europe (Diamond 1999: 195), they do not appear to have decimated the Mesolithic groups who lived in close proximity to agriculturalists for protracted periods in Portugal, Poland, Belgium, north Germany and southern Scandinavia. Further, it is questionable whether European Neolithic societies outside of the tell zone of the Balkans were sufficiently densely packed to sustain such diseases, which tend to die out in dispersed populations (Russell 2012: 341). Britain was of course separated from the continent by postglacial

sea-level rise, but the land-bridge was only erased a few centuries before the start of the Neolithic (see Chapter Eight), and this would not have produced the degree of biological isolation that rendered the inhabitants of the New World susceptible to European infections in the post-contact period (Cook and Lovell 1992: 216). Sheridan proposes that small numbers of immigrants can have had 'a disproportional influence on indigenous populations' (2010b: 90), but her examples (American 'Founding Fathers' and European traders in Asia) relate to very different historical contexts from the Mesolithic-Neolithic transition. Both Mesolithic and Neolithic groups were stone tool-using members of pre-state societies, and neither was supported by emerging capitalism, global mercantilism, iron-and-steel industrial technology and the political organization of nation-states. While the adoption of Neolithic technologies and practices undoubtedly transformed people's lives, it is important not to overstate the cultural and intellectual disparities involved.

Sheridan's final continental migration takes the form of a movement out of Normandy and the Channel Islands and into south-west Britain in the first quarter of the fourth millennium BC (Sheridan 2010b: 99). In this case the cultural affinities that she cites are in no doubt whatever, but what is open to question is whether they need to be attributed to population movement. Originally, Sheridan included the structural similarities between Norman and southern British long mounds as one of the elements in this grouping (2004: 9–10), but while there are clear parallels between the bayed construction of sites such as Colombiers-sur-Seulles and both the Cotswold-Severn long cairns and some earthen long barrows (Chancerel et al. 1992: 28), there are also significant differences. Sheridan now emphasizes instead the small passage tomb at Broadsands in Devon, which she compares with examples at Vierville, Carn, and La Sergenté in Jersey, and a series of small drystone monuments in the Cotswold-Severn region which might arguably predate the long cairns of the area (2010b: 99). The suggestion that these 'rotundae' (some with closed chambers), which form primary structural components of some Cotswold-Severn long cairns, might have been appreciably earlier monuments containing cists or passage-graves (Sheridan 2003a: 12; Darvill 2004: 58; Sheridan 2010a: 202) seems so far to be unsubstantiated. Recent radiocarbon dates from Notgrove, Sale's Lot and Tŷ Isaf give the impression that the rotunda graves at these three sites were not especially early, and that they did not pre-date the trapezoidal cairns in which they were embedded by any substantial period (Smith and Brickley 2006: 351; Whittle, Healey and Bayliss 2011: 469). While it might be argued that the dated bone at Notgrove had been added when the long cairn was constructed, or that the human remains from Sale's Lot were introduced long after construction (Pailler and Sheridan 2009: 38), the accumulating evidence has still given no positive indication of an early date for rotundae. A further series of Cotswold structures with corbelled roofs, including Bibury, Ablington, Cow Common Round, and Saltway Barn (Corcoran 1969a: 68), could conceivably be linked with north French passage tombs, but once again structural similarity need not imply chronological proximity. Furthermore, the recent dating of the trans-epitaph-chambered long mound of Burn Ground, Hampnett to early in the fourth millennium casts considerable doubt on the notion that there had been a 'pre-long cairn' Neolithic horizon in the Cotswolds in the period before 3800 BC (see Chapter Ten).

Broadsands has produced radiocarbon dates that have been variously modelled to indicate a start of activity at 3845–3726 or 3815–3740 cal. bc (both at 68 per cent probability) (Sheridan et al. 2008: 15; Whittle, Healy, and Bayliss 2011: 516). These dates fit fairly comfortably into the more general expansion of Neolithic entities and practices from the south-east to the south-west of England (Whittle, Healy, and Bayliss 2011: 515). It is clear that a range of artefacts and structures were added to the Neolithic repertoire in the course of this process, and that their closest parallels are in northern France, but it is less obvious that the agency of another group of migrants is required to account for them. The final element of the ‘trans-Manche west’ strand that Sheridan identifies is a series of ceramic assemblages that she identifies as ancestral to the Hembury tradition, and which demonstrate affinities with the Chasséen of northern France (2010b: 101). The pottery from Broadsands, Flagstones in Dorset, the Sweet Track in Somerset, Coneybury in Wiltshire, and Penhale Round in Devon includes numerous carinated bowls, but some of the vessels are thicker, with a coarser fabric than classic Carinated Bowl. But rather than seeing these as an entirely separate Norman tradition, it might be possible to read the assemblages discussed by Cleal (2004) in terms of cultural synthesis, and the progressive broadening of a repertoire based on fine carinated bowls through the addition of Chasséen traits and vessel forms. This might place the Sweet Track and Rowden assemblages a little earlier than Coneybury, for instance. Such a process could involve interaction between Norman and south-west British populations, without the need for the relocation of entire communities. Sheridan’s explanation for the migration of Norman groups is taken from Marcigny, Ghesquière, and Desloges’ (2007: 93) observations on the archaeology of lower Normandy (Sheridan and Pailler 2011: 21). In the period after 3800 bc, the plentiful evidence of Neolithic settlement declines, and they hypothesise that this period may have been one of disorder, characterized by epidemics and the reorganization of population. It is something of a leap of faith to ground an argument for population displacement on this rather colourful rationalization of an absence of settlement evidence, which might be accounted for in a variety of other ways.

Throughout her publications, Sheridan suggests interesting connections between Britain and the continent, which contribute toward a picture of a complex and variegated cultural mosaic in the British Neolithic. Yet these connections are considered exclusively in terms of discrete episodes of folk movement, and in each case the causes that she cites for these movements are equivocal. Indeed, the causal mechanisms evoked in those areas of Europe where maritime relocations of population have been convincingly argued for at the start of the Neolithic (the Mediterranean basin and Atlantic Portugal) are unlikely to apply in northern France and the Low Countries. These include proto-urban settlement aggregations, highly centralized authority structures, and elaborate forms of dispute-management embedded in inflexible social traditions. The richness of the Neolithic cultural pattern is better served by recognizing that indigenous communities of Britain drew on overlapping networks of overseas contacts in order to develop assemblages that have no precise European counterparts.

Ironically, in the period following the inception of the Neolithic, Sheridan proves entirely willing to accept the importance of long-distance contacts, including the circulation of materials and ideas through sea voyages. Thus the occurrence of Irish

porcellanite axes and Antrim flint in Scotland, of Cornish and Cumbrian axes in Ireland, of south-west English pottery styles in both northeast Ireland and south-west Scotland, and the similarities between Impressed Wares on both sides of the Irish Sea are cited as examples of the flow of materials and ideas between communities maintaining convivial relations (Sheridan 2004: 16). Even at the turn of the fourth and third millennia BC, with the spread of passage-grave art motifs, Grooved Ware, and henge architecture, and the apparent migration of the Orkney vole to the Northern Isles from France or Iberia by boat, no population movement is invoked to explain the pattern (Sheridan 2003: 5; 2004: 17). Interactions between Neolithic communities are therefore viewed in an entirely different way from interactions that might involve Mesolithic groups. This suggests that Sheridan, like Jacquetta Hawkes, perceives a profound gulf existing between hunter-gatherers and farmers: they were different kinds of people with different capabilities (see Pluciennik 2002). The former are unlikely to have engaged in cross-Channel exchange, or to have learned the skills of manufacturing fine, thin-walled pots; the contrast between midden-dwellers and megalith-builders is 'stark' (Sheridan 2004: 10, 2007: 461, 2012a).

THREE TYPES OF REVISIONISM: 3, PETER ROWLEY-CONWY

Steamroller models, emphasizing inexorable population growth or stadial socio-economic change, are not helpful in this context. (Zvelebil and Rowley-Conwy 1986: 68)

The whole economic change took at most a century or two, and it was the biggest single upheaval that northwest Europe has ever undergone. Agriculture was an economic juggernaut moving fitfully across Europe and overwhelming previous ways of life. (Rowley-Conwy 2004a: 97)

Where Sheridan identifies population movement as the essence of the Mesolithic-Neolithic transition in Britain, Peter Rowley-Conwy's 'How the west was lost: a reconsideration of agricultural origins in Britain, Ireland, and southern Scandinavia' (2004a) is far more focused on changing subsistence practices. And while Sheridan seeks to reinstate arguments that were first rehearsed by Childe and Piggott, Rowley-Conwy adheres firmly to the agenda of 1960s–70s Cambridge palaeoeconomy. There is a further distinction between Rowley-Conwy's revisionism and that of either Cooney or Sheridan. While the latter are primarily concerned to explain the developing evidence for the earliest Neolithic in the context of their own perspectives, Rowley-Conwy's article more obviously has the status of a defence of a philosophical position, imperilled by a rising tide of post-processualism. As other authors have pointed out (e.g. Garrow 2006: 10), it is for this reason that Rowley-Conwy's account is highly polemical, plays down regional variation, and renders the arguments of others in a somewhat parodic fashion. Strikingly, Rowley-Conwy breaks with aspects of the influential approach to the Mesolithic-Neolithic transition in northwest Europe that he had earlier pioneered together with Marek Zvelebil, and which had originally been distinguished as 'a hunter-gatherer perspective' (Zvelebil and Rowley-Conwy 1984, 1986). Where

this had emphasized the robustness of Mesolithic hunter-gatherer economies around the Atlantic fringe, so that they remained for long ‘a viable alternative to farming’ (Zvelebil and Rowley-Conwy 1986: 67), the arrival of agriculture is now presented instead as ‘unstoppable. . . a catastrophe. . . a rapid and massive socio-economic “wave of disruption”’ (Rowley-Conwy 2004a: 97). This change of emphasis continues in a more recent contribution (2011), in which Rowley-Conwy emphasises the importance of small-scale population movement in the introduction of agriculture into Atlantic Europe, apparently positioning the Mesolithic indigenes as passive recipients of the Neolithic package.

The reasons for this radical change of heart are not spelt out, but it is conceivable that Rowley-Conwy had come to reject some of the implications of his own earlier arguments, which had conceded that in some areas the adoption of farming had not been determined exclusively by the relationship between population, technology and ecology (Zvelebil and Rowley-Conwy 1986: 88–9). Unfortunately, by coming to see the replacement of hunting and gathering by farming as both historically inevitable and irreversible, and the two economic systems as so mutually incompatible that they cannot be successfully combined, he arrives at a position that closely resembles the stadial schemes that he once rejected. The farming ‘stage’ succeeds the hunting and gathering ‘stage’: universally, unavoidably, irrevocably, and at a stroke.

Rowley-Conwy’s 2004 article takes the form of a critique of a ‘post-processual orthodoxy’, which has sought to separate subsistence economy from ideology, leaving the latter as the motor of change at the start of the Neolithic in northwest Europe. ‘The overarching theoretical claim is the primacy of ideology, which permeates and contextualizes all aspects of life’ (Rowley-Conwy 2004a: 98). I will argue that there never was an ‘orthodoxy’ that was as coherent as Rowley-Conwy suggests; that all of the principal arguments that he attributes to this orthodoxy are fabrications; and that the supposed ‘overarching theoretical claim’ concerning the dominance of ideology was much less widely adhered to than he implies. Moreover, his article relies heavily on a series of a priori assumptions: the Neolithic is presumed to have been broadly homogeneous over space and time; a particular mode of social and economic organization is imagined to have had a universal currency; ‘rational’ economic behaviour is to be expected in all contexts, and does not need to be demonstrated empirically, while any other explanation is subject to different criteria of adequacy. As we will see, this results in a series of circular and self-confirming arguments. Notably, the homogeneity of the Neolithic throughout Britain, Ireland and southern Scandinavia is first asserted, and this enables evidence to be drawn selectively from different regions and presented as representative of the whole, on the grounds that only the *quality* of the data is geographically variable. This material is then used to construct a highly generalized model, which in turn confirms the widespread character of the processes being claimed.

Rowley-Conwy’s argument is not only polemical, but also highly rhetorical. As we have noted, it has been stitched together in order to support a particular view of prehistory, and of human existence in general. Consequently, it needs to be dismantled piece by piece, and at the risk of trying the reader’s patience we will consider it at some length. The rhetorical character of the piece is particularly evident in the way that Rowley-Conwy seeks to stigmatise a ‘post-processual

agenda' (2004a: 97). The term 'post-processual' occurs eight times in the article, but remarkably the words 'palaeoeconomy' and 'palaeoeconomic' are not used at all. This would appear to represent an instance of the familiar discursive ploy of presenting one's academic opponents as ideologues who are pursuing an agenda, which one is oneself describing from a position of neutral, dispassionate objectivity. This is what social scientists refer to as 'the voice from nowhere' or 'the god trick' (Haraway 1988: 581). Rowley-Conwy refrains from identifying his own philosophical position, but it appears to conform closely to the original tenets of Cambridge palaeoeconomy, as expressed by Higgs and Jarman in their canonical statement of 1975. Palaeoeconomy maintained that human subsistence economics and animal ethology were practically interchangeable, so that economic practice could be understood as a behavioural response to prevailing conditions, rather than a cultural strategy. Further, it held that economic behaviour was exclusively rational, and that any consideration of 'the supernatural' could be set aside. Finally, archaeology should be concerned with the generation of global generalizations, and avoid the particular, the small-scale, and 'the froth of short-term variables' (Higgs and Jarman 1975: 2–6). All of these elements can be recognized in Rowley-Conwy's reasoning. In only one respect does he break with palaeoeconomic orthodoxy: where Higgs and Jarman (1969) had insisted that agriculture was little different from other economic regimes, representing merely a particular form of intensification, Rowley-Conwy affords it an epochal status and categorical distinctiveness.

It is the palaeoeconomic concern with rational economic behaviour that leads Rowley-Conwy to construct an idealized, ahistorical, context-free model of a particular mode of agro-pastoral farming: a functionally-interdependent package of fixed-plot horticulture supported by small numbers of attendant livestock, maintained by a co-resident domestic community. This is simply the most efficient and productive way for Neolithic economics to be conducted, and therefore it should be expected to be ubiquitous. A few pages into his article, Rowley-Conwy provides a vivid account of what he has in mind:

a sedentary Neolithic that acquired the majority of its food from agriculture. Agricultural clearings were probably small and scattered but must have represented substantial infrastructural investment. Quite apart from the felling and clearing of forest, each would have contained one or more houses and small but intensively cultivated fields. In time, mantle vegetation would have grown round the edge, providing nuts and fruits. Animals were kept close to the settlement. Cattle, probably in fairly small numbers, were intensively managed for dairy products in Britain and for meat in Denmark. Pigs foraged on and around the settlement; because little interbreeding with wild boar took place, it is apparent that they were not extensively run in the forest. This required yet more infrastructure: fencing to keep them out of the cultivated fields, an important feature in contemporary societies keeping pigs like this. Substantial areas of coppiced woodland were needed. The ard, requiring dedicated oxen, soon supplemented the digging stick; field size and agricultural production increased. Wild animals and plants were exploited but only as minor supplement.

(Rowley-Conwy 2004a: 96)

It should be readily apparent that this bucolic image is not one that has been derived from the British evidence, but imposed upon it. Our discussion of the European sequence in Chapters Two to Four has shown that a Neolithic of

autonomous household units, each independently engaged in equivalent subsistence tasks using its own livestock and equipment (a Domestic Mode of Production), was characteristic of Greece and the Balkans, but had been significantly transformed before it reached Atlantic Europe. Yet the possibility that different patterns of social relations distinguished the Neolithic communities of different regions is not entertained by Rowley-Conwy. It may be that he considers social arrangements to be the *outcome* of ecological and economic regimes, rather than providing the framework that gives form and structure to everyday practices, including those involved in the cultivation, acquisition, and preparation of food. Such an argument, in which particular family forms are promoted by specific subsistence arrangements, is explicitly made by Bogaard (2005: 179), for instance. Effectively, Rowley-Conwy's argument relies on the notion that the Neolithic was a fixed and invariant structure, which was first put in place and then occupied by human beings. The counter-argument is that the Neolithic presented a set of *possibilities*, which were realized in different ways by different people in different settings. We will expand on this view further throughout this book.

Throughout his article, Rowley-Conwy repeatedly resorts to the position that a particular economic rationality should be expected to have prevailed in all past contexts. Thus, where the evidence is too coarsely grained to discriminate between rival interpretations the 'commonsense' economic view is defaulted to. A good example of this is his discussion of stable isotope analyses of human diet (2004a: 91). Here, he discounts any suggestion that the shift to a terrestrial signal at the start of the Neolithic might be the result of a rejection of marine foods as part of an identity process (see Richards 2003: 35). The idea of a dietary prohibition 'goes beyond what the isotopic evidence can show: *predominance* of marine and terrestrial foods can be demonstrated, but total dietary *exclusion* of either cannot' (Rowley-Conwy 2004a: 91). Consequentially, we should accept the alternative explanation of a universal shift to a complete dependence on domesticated resources. But as we have already noted, this argument cannot actually be sustained by the evidence either, since stable isotopes from human bones do not distinguish between wild and domesticated foods. The case for heavy reliance on domesticates may be a coherent one, but its status is inferential, and Rowley-Conwy's reason for preferring it seems to be primarily based upon prejudice. A similar argument is made in relation to settlement patterns: 'it has been postulated that the Neolithic terrestrial foods might have been wild rather than domestic, but this is unlikely: the interior supported relatively few Late Mesolithic hunter-gatherers and would not have been able to sustain the much larger Neolithic population without a predominantly agricultural economy' (Rowley-Conwy 2004a: 91). Yet we have very little reliable demographic evidence for either the Mesolithic or the Neolithic in Britain (Spikins 2000: 105). Neolithic communities are certainly more archaeologically visible, if only because they built large monuments, trackways and buildings, and dug pits. But beyond the relative density of lithic scatters attributed to different periods and the comparative frequency of radiocarbon determinations over time, there is little to indicate how far population increased during the fifth and fourth millennia BC, and how far this correlated with the change from Mesolithic to Neolithic. Rowley-Conwy seems to be assuming that the Neolithic population was appreciably larger, simply because it was Neolithic. Further, he is presuming that Neolithic subsistence practices were

predominantly focused on wild *or* domesticated species, rather than any combination of the two.

The keystone of Rowley-Conwy's argument, however, is the contention that post-processual archaeologists have sought to 'decouple' ideology from subsistence economics (2004a: 98). It is here that his argument is most obviously sustained by a highly selective use of his sources. For instance, he makes much of a diagram of mine (Thomas 1997: fig. 1), which, he claims, represents a chronological process in which a sudden ideological change was followed by more gradual economic transformation. Thus, ideology has been severed from economics, and given primacy. The flaw in this argument is that the original diagram makes no reference to ideology whatever. Instead, it depicts a sudden and widespread dispersal of Neolithic *material culture* (and of domesticates), followed by the more gradual and protracted emergence of a fully agricultural landscape. Rowley-Conwy's criticism requires that ideology and material culture must be understood as synonymous. But as we have seen already, *this is the precise opposite* of the argument that was being developed in the 1997 paper: that the Neolithic material assemblage cannot be read as a straightforward reflection of an ethnic identity, an economic package, *or an ideology*.

On the basis of this purported separation of ideology and economy, Rowley-Conwy proceeds to define three 'axioms' which characterize the 'post-processual consensus' on the Mesolithic-Neolithic transition, as follows:

1. Before the ideological change, the Late Mesolithic was intensifying economically towards domestication;
2. After the ideological change, the Neolithic diet still came mainly from nomadic hunting and gathering;
3. Across the ideological change, subsistence change was seamless as local Mesolithic groups gradually adopted agriculture.

This is a 'straw man' argument, since none of the authors that Rowley-Conwy cites actually advocates the 'consensus' as he presents it. Yet refuting these three 'axioms' enables him to claim that he has overcome the post-processual challenge. It follows that it is necessary to dispute his claims point by point. The first 'axiom' is that the Later Mesolithic is held to have been intensifying, so that the change to the Neolithic was, in economic terms, seamless. Here, Rowley-Conwy's sleight of hand in shifting the argument from one region to another comes to the fore. First, he cursorily dismisses the British evidence by claiming that 'the British late Mesolithic has actually provided very little relevant information of any kind' (Rowley-Conwy 2004a: 86). He thus moves on to southern Scandinavia, where the literature has indeed dwelt on themes of sedentism, social complexity, and economic intensification (Rowley-Conwy 1983, 1998; Blankholm 2008: 125). Yet in Britain the situation was quite different. Even in the southern Hebrides (Mellars 1987) the case for year-round sedentism is not strong, and few arguments have been made for any kind of established social hierarchy. Rather than economic intensification, the emphasis has more often been on the *diversification* of subsistence regimes in the Later Mesolithic, involving encounter hunting of ungulates, the increased use of aquatic resources and wildfowl, controlled burning of upland areas, and more systematic collection of plant foods such as hazelnuts and acorns. Since Dennell's intervention, few claims have been made for the

emergence of any form of indigenous agriculture: it is simply suggested that such a range of options might mean that British Mesolithic communities were not forced to adopt agriculture simultaneously and at the earliest possible opportunity (Thomas 1988: 60). Rowley-Conwy rejects the proposition that hunter-gatherer communities might change as a result of internal social processes, but in doing so he only addresses Hodder's *domus/agrios* model, and its prediction of a unilinear and progressive shift from immediate to delayed-return economic strategies (Rowley-Conwy 2004a: 86). Conspicuously absent, however, is any consideration of Barbara Bender's influential discussion of the political economy of hunting societies (1981), and of the potential impact on the subsistence regime of developing alliance structures, gifting cycles, ceremonial practices, and social competition. In other words, there is an important distinction to be made between unfolding, teleological models of socio-economic change and arguments focused on internal tensions, conflicts and contradictions.

Rowley-Conwy pursues his argument about intensification by addressing the question of monument-building, and the extent to which the construction of large-scale architectural works require the generation of a substantial economic surplus (see, for example, Legge 1989). His case is that post-processual archaeologists have maintained that 'Neolithic monuments resulted from ideas not economy' (Rowley-Conwy 2004a: 84). In making this claim, Rowley-Conwy is actually conflating two entirely separate arguments. In the first place there is Richard Bradley's (1998: 34) suggestion that hunter-gatherers and farmers have entirely different ways of thinking about the world, and that a Neolithic mentality would have to emerge before people began either to construct monuments or to exercise control over plants and animals. In contrast, my own view has been that the belief that monument-building could only have emerged following the development of a new and more productive economic system, which could generate a substantial surplus, may be mistaken (Thomas 1999: 23). Projects such as the construction of monumental architecture depend less on the accumulation of produce to support a team of specialist workers than on the mobilization of labour during times in the seasonal cycle when the demands of subsistence tasks are reduced. Such periods of relative inactivity are present in the lives of both agricultural and hunter-gatherer societies, and the critical issue is the political means by which labour can be mobilized and harnessed to collective endeavours (Sahlins 1972: 38). Rowley-Conwy devotes much effort to demonstrating that the New World examples of monument-building by peoples who practiced hunting and gathering or simple horticulture that I cited are in some way atypical. His job has now been made much more difficult by the revelation that the massive south Turkish ceremonial complex of Göbekli Tepe was not built by people who were primarily farmers. Göbekli Tepe dates to the tenth–ninth millennia BC Pre-Pottery Neolithic, and yet it was constructed by people who had no domesticated plants or animals at all, but who engaged in the intensive hunting of gazelle and wild cattle (Schmidt 2010: 242). Here, monumentality may have been a stimulus for the development of agriculture, rather than vice versa.

But in any case, these analogical arguments are no longer so crucial. Rowley-Conwy's statement that 'Mesolithic material culture did not change: no monuments were constructed. . . . Monument construction was. . . impossible without an agricultural population' (2004a: 84) can now be disputed on empirical grounds,

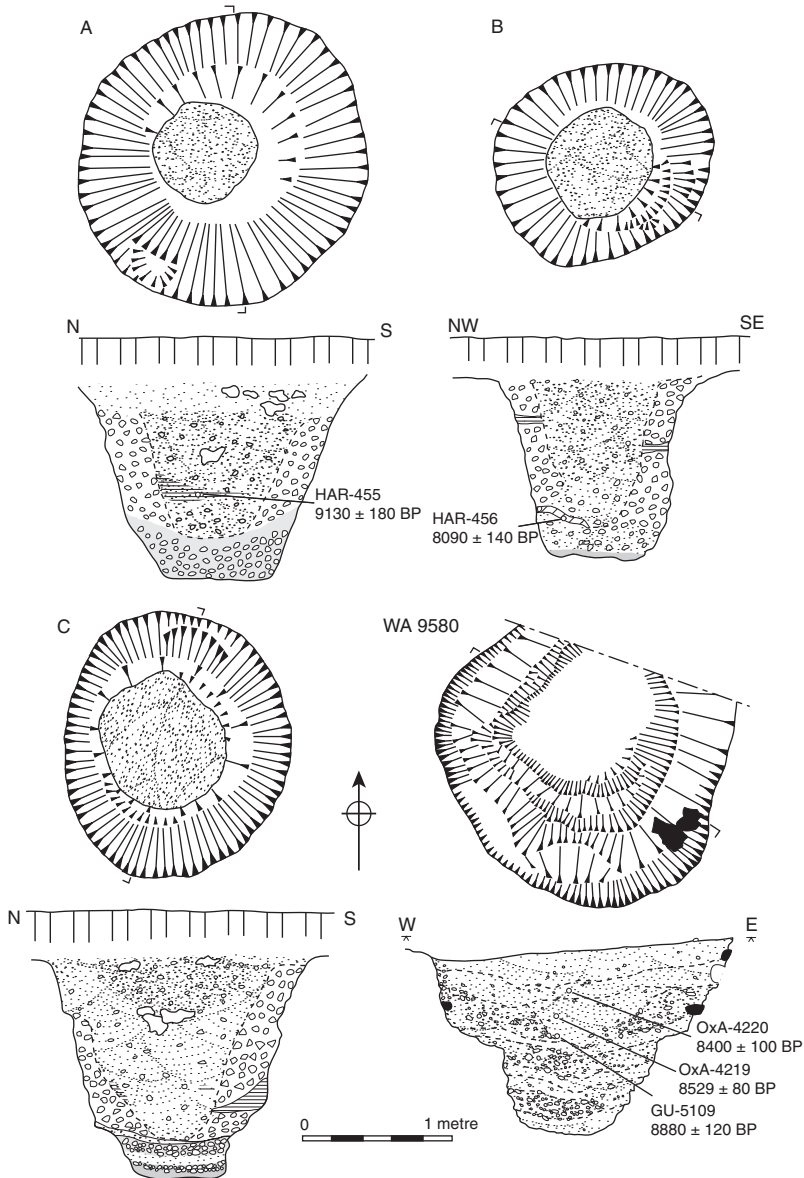


Fig. 5.8. Mesolithic features from Stonehenge car park (from Cleal, Walker, and Montague 1995, with the kind permission of English Heritage)

for the evidence that is beginning to demonstrate the extent of Mesolithic monument-building in Britain. The setting of colossal pine post-holes identified during work in advance of the construction of Stonehenge car park has been dated to the eighth millennium BC (Cleal, Walker, and Montague 1995: 47) (Fig. 5.8). Moreover, recent research has demonstrated that this represents only one of a growing

number of substantial structures that were created during the Mesolithic, such as the pit alignments at Warren Field, Crathes (Allen and Gardiner 2002; Murray, Murray, and Fraser 2009: 5–29). This is not to claim that monuments were either as common or as massive in the Mesolithic as they became during the course of the Neolithic; merely that it was not beyond the capability of hunter-gatherers to create imposing ceremonial architecture. There is nothing intrinsic about monument-building that limits it to any particular economic system, and it follows that the monuments of the Neolithic are not a diagnostic indicator that a specific economic regime was being followed.

While many recent accounts have suggested that people in Early Neolithic Britain combined wild and domesticated species in ways that probably varied over both space and time, Rowley-Conwy's second 'axiom' implies that all 'post-processualists' insist that Neolithic subsistence practices were exclusively based around hunting and gathering. Thus, for instance, he claims that 'the current consensus. . . plays down the role of domestic livestock' (Rowley-Conwy 2004a: 90). This is remarkable, given that several of the authors he singles out have emphasized the *social centrality* of cattle in the Neolithic (Ray and Thomas 2003; Whittle 2003: 94; Pollard 2006a: 141). In contrast to the 'fairly small numbers' of cattle that Rowley-Conwy mentions, these authors describe large herds that were intimately connected to the movements and identities of human groups, and which served as a critically important form of mobile wealth. Yet because cows are big animals, and produce very large quantities of meat, it is not imagined that beef would necessarily be an everyday food (Russell 1998). Cattle would have been slaughtered and consumed at times when large numbers of people were present. These would probably have been special events, such as weddings, funerals, births, festivals and calendrical rituals: frequent enough to have made a significant contribution to diet, but infrequent enough to have been identified as a food of particular value, ranked above milk or plant foods. For the rest of the time, cattle would have provided dairy products, and they might also possibly have been bled to provide further nutrition (Thomas 1999: 28).

More contentious is the question of the relative importance of domesticated plants during the Early Neolithic. We will discuss this issue at greater length in Chapter Eleven but the salient points are straightforward. Throughout much of the British Neolithic, the majority of carbonized plant assemblages are dominated by wild species (Moffett, Robinson, and Straker 1989; Robinson 2000). If anything, the representation of cereals is strongest in the first few centuries of the period: after a sudden and widespread appearance on the British mainland, domesticated plant species declined to virtual archaeological invisibility in the later fourth and third millennia BC (Brown 2007; Stevens and Fuller 2012). But it is also unclear how far the *presence* of cereals can be equated with dietary importance. On taphonomic grounds, it has been argued that cereals may be systematically under-represented on Neolithic sites (Jones 2000; Rowley-Conwy 2000). Cereal grains, chaff and straw are less likely to be preserved by carbonization than hazelnut shells, as the latter are a by-product of consumption, and might be expected to be used as fuel in fires. This is a strong hypothetical argument, but it does not in itself prove that cereals were the principal source of nutrition throughout the British Neolithic—merely that they could *potentially* have been more common than appearances suggest. However, it is notable that what Mark

Robinson (2000: 87) defines as the 'normal' Early Neolithic botanical assemblage, a preponderance of wild species with a significant presence of cereals, is as likely to occur in waterlogged as in carbonized conditions, where different taphonomic factors apply (e.g. Nye and Scaife 1998). Moreover, if cereal agriculture really was the dominant form of subsistence practice throughout the British Neolithic, it is not clear why the available archaeological evidence should contrast so strikingly with that for the Later Bronze and Iron Ages: presumably the same taphonomic forces would have operated through time? Rowley-Conwy (2004a: 90) attributes the dominance of wild plants on Neolithic sites to the formation of a 'vegetational mantle' around the edges of horticultural clearances, providing incidental access to nuts and berries. So the observed assemblage is the predictable outcome of a horticultural system conducted in woodland conditions. However, such a woodland horticulture is also considered to have characterized the central European *Linearbandkeramik*, and here the observed pattern is quite different. At most LBK settlements, only a few fragments of any wild plant material are generally encountered (Bakels and Zeiler 2005: 313). So, either *Bandkeramik* people had a cultural predisposition to neglect the wild foods that surrounded them, or something was qualitatively different between the central European and British Neolithic. Moreover, while the pattern of assemblages dominated by wild plants is strengthened in the Later Neolithic, by this time large areas of the landscape had been entirely cleared of forest for pasture, and no 'vegetational mantle' would have existed (Cleal and Allen 1995: 476; French et al. 2003).

Both Jones (2000: 82) and Rowley-Conwy (2004a: 90) argue that botanical assemblages that are the product of domestic accidents may be more representative of the arable economy than those created by processing and consumption. While Rowley-Conwy acknowledges that the large grain caches from some causewayed enclosures may be 'special' in some sense, he maintains that the assemblages from burnt timber buildings like Tankardstown, Balbridie, and Lismore Fields represent the outcomes of accidental combustion in a domestic context (2004b: 90). As we will see in Chapter Nine, there is a growing archaeological consensus that the large Early Neolithic timber halls of Scotland, England, and Wales cannot unproblematically be identified as the normal dwellings of permanently co-resident agricultural communities (Brophy 2007). Moreover, their destruction by fire is more likely to have been deliberate than accidental (Noble 2006a, Chapter 3; Thomas 2006). This would mean that the burnt grain that they contained had been intentionally wasted or sacrificed, in a way comparable with the wasting of meat at causewayed enclosures. None of this is to imply that the halls were exclusively ritual structures, as Rowley-Conwy argues ('some have sought to separate this evidence from the domestic sphere and locate it entirely in the arena of ritual'; 2004a: 90). Rather, halls are increasingly understood as structures used for a variety of purposes (storage, redistribution, feasting, gathering, ceremonial, conflict resolution, temporary lodging for many or permanent occupation by a few) by large and dispersed communities.

Rowley-Conwy's complaint in respect of timber buildings that 'ritual is best re-embedded in the cultural totality, not used as a denial of domesticity' (2004a: 90) again reveals the rhetorical character of his arguments. For in discussing the fruit-and-nut dominated botanical assemblage from the Neolithic pits at Firtree Field, Down Farm in Dorset, he claims that:

the full publication of this site makes interesting reading: the pits are identified as *non-domestic* on virtually the full suite of their contents.

(Rowley-Conwy 2000: 49; emphasis in original)

In other words, the evidence from pit sites can be set aside, for it is 'ritual' and 'non-domestic', but for someone to make similar claims about timber halls would be reprehensible! Similarly, Rowley-Conwy refers to 'the symbolic use of crops proposed by Thomas' (2004a: 90), as if what was being proposed was a complete separation of the symbolic from the everyday. In reality, what was suggested was that cereals might have been a highly ranked food, possibly eaten predominantly at special occasions or at specific times of year, but none the less contributing to the overall diet (Thomas 1999: 24). In our own milieu we have special foods ranging from Christmas pudding to the Sunday roast, which are not consumed every day, but this does not elevate them to a separate sphere of the symbolic or the ritual. It is perfectly conceivable that cereals were widely available in Neolithic Britain without their being an everyday staple that was consumed continuously by all people. But such a view vitiates the unexpressed dogma that lies behind Rowley-Conwy's article: a way of life that combined the consumption of wild and domesticated foods is unthinkable, because it is economically irrational.

The studies of the formation of botanical assemblages that Rowley-Conwy cites generally claim the status of middle range theory, and he laments the repudiation of this enterprise by post-processual archaeologists. As he puts it, to reject a methodology for the interpretation of macrobotanical samples is to place oneself in the position of having to 'let the data speak for themselves' (Rowley-Conwy 2004a: 88–9). Yet the reason why many archaeologists have become sceptical of middle range theory is not because they want to discard methodology, and simply tell unregulated stories about the past. On the contrary, the objection to middle range theory is that it purports to place our knowledge of prehistory *beyond interpretation*, by providing 'anchors in the past' which are completely unambiguous: material signatures that correlate with behavioural patterns (Binford 1983a: 213). The intention is that this middle range theory should be entirely independent of our general theories about the world (Binford 1983b: 421). But this is to be achieved by casting the archaeological record as something that is hermetically separated from both past and present dynamics (Lucas 2001: 185). Actualistic research on formation processes in the present, whose outcomes can be applied to the past, is thereby presented as transcending its status as a set of analogies (Kosso 1991: 625). There is no reason for 'middle range' research on crop-processing practices to be rejected, and it can fruitfully be used to interpret archaeological residues. But nor should its truth-value be imagined to be absolute and context-free. Such studies provide us with useful tools, but they cannot be used to 'read off' the meaning of archaeological deposits in a mechanistic way. The results need to be evaluated in their spatial and temporal context. Thus it matters very much whether the timber building from which a deposit of carbonized grain has been recovered is a 'house' that has burned down by accident, or a 'hall' that was deliberately fired.

However, Rowley-Conwy obscures the character of the British timber halls by resorting again to over-generalization. Even though it is clear from his own diagram (his fig. 5) that Early Neolithic buildings are much less common on the

British mainland than in either Ireland or southern Scandinavia, he claims that 'the distribution of houses is largely an accident of research. Irish gas pipelines and motorway construction have produced many' (Rowley-Conwy 2004a: 95–6). It is perfectly correct that the recent expansion of civil infrastructure in Ireland has resulted in extensive rescue excavation over the past two decades, and as a result some eighty timber buildings are now known (Grogan 2004; Smyth 2010: 4). But in Britain this same period has been the era of PPG 16, during which there has been an exponential growth in the number of archaeological interventions in the landscape. Neolithic buildings have been discovered, but they have been at once fewer in number and often much larger in scale. Rowley-Conwy does not address either of these contrasts. Still more catastrophic for his arguments is the revelation that both in Ireland and in Britain, Early Neolithic timber buildings appear to have been a very short-lived phenomenon (Whittle, Healy, and Bayliss 2011: 598). In neither area do they represent a normal form of domestic dwelling, built and occupied throughout the entire period. Equally, Rowley-Conwy states that 'field systems are likely to have been widespread across the better agricultural land of Britain and southern Scandinavia as well, but they have not survived the subsequent millennia of tillage' (Rowley-Conwy 2004a: 92). Once again, the regional contrasts are ignored. In Ireland, the evidence for Neolithic field systems has strengthened in recent years (Cooney 2000: 47), while in Britain the only possible example, at Fengate, has been re-dated to the Bronze Age (Cleal 1999: 6; Evans and Pollard 2001). Why should Bronze Age field systems have survived in the British landscape and Neolithic ones been erased, given that the intensive agriculture that would have impacted on both took place from the Late Iron Age onwards?

The final issue that Rowley-Conwy discusses under his second 'axiom' (concerning 'nomadic hunting and gathering') is that of mobility. Here again, he appears not to have paid attention to the arguments that he is criticizing, for he concentrates almost exclusively on the question of shifting cultivation. To be fair, it was Rowley-Conwy's own article (1981a) which definitively made the case against swiddening in European prehistory, and there has been little discussion of slash-and-burn in the British Neolithic ever since, beyond Barrett's (1994: 143–5) case for a long-fallow system. For the most part, discussions of mobility in the Neolithic have been focused on animal herding (Whittle 1997: 20; Edmonds 1999: 27; Thomas 1999: 27). Many of the features of the period, from monument-building to pit-digging and deposition, seem to relate to cyclical movements, and periodic return to particular locations (Garrow 2007: 20). There is some agreement that whatever horticulture took place in Early Neolithic Britain involved small, long-lived, hoe-cultivated plots. But this kind of activity need not have been pursued by the majority of the population. Similarly, Rowley-Conwy lays much stress on the significance of hazel coppicing (2004a: 96). The young shoots of hazel would have to be protected from animals, and this implies sedentism. But again, it is not clear that everyone in Neolithic Britain need have had entirely identical ways of life. Only a few people need have stayed near a hazel stand in order to protect it, and this could easily imply either an inter- or intra-community division of labour.

Rowley-Conwy concentrates on the way that 'the domesticity of cereal agriculture, and marks, and houses has been denied' (2004a: 98). What he appears not to

have noticed is that it is not so much the domesticity as the *representativeness* of this evidence that has been called into question. His reasoning simply cannot take this into account, since for him the homogeneity and universality of a particular form of economic and social organization has an *a priori* status. He has no place for variability. If cereals, ards and marks and houses are present in the archaeological record at all, they must be representative of a widespread and uniform pattern.

Rowley-Conwy's final argument is that the change from hunting and gathering must have been swift, since the combination of traditional and novel resources is an unstable one (2004a: 97). His claim is that a 'half and half' economy would be unviable, as it would introduce scheduling problems into the seasonal cycle. Yet aside from the copious ethnographic evidence for societies who do make use of both domesticates and wild foods (Kent 1989), we have clear examples from Neolithic northwest Europe of cattle and cereals being added to hunting and gathering ways of life, as with Swifterbant in the Netherlands (see Chapter Three). It is not necessary to claim that such an arrangement was sustainable in the very long term. Indeed, the case that will be made in this book will be that domesticated plants and animals and Neolithic material culture were swiftly adopted by indigenous communities in Britain, but that it took some generations before the consequences of this adoption were fully realized. What emerged in the period around the thirty-seventh century BC was arguably more stable than the primary Neolithic, but it was still less focused on cereal agriculture.

A NEW BEGINNING?

At the time of writing, the most significant recent contribution to the debate on the Mesolithic-Neolithic transition in Britain is *Gathering Time*, by Alasdair Whittle, Frances Healy, and Alex Bayliss (2011). This volume is actually a study of the dating of Early Neolithic enclosures in Britain and Ireland, using Bayesian statistics to achieve much more precise estimates of the age of individual sites and of the phenomenon of enclosure in general than have ever been achieved before. However, the book also includes numerous chronological models for other Early Neolithic sites and practices, and explicitly addresses the beginning of the Neolithic in Britain. As such, it is discussed in more detail in Chapter Seven. In brief, one of the most important achievements of this remarkable work is to establish a 'timetable' for the establishment of the Neolithic in Britain, which completely transforms our understanding of the subject. The sequence outlined by Whittle, Healy, and Bayliss is one in which Neolithic innovations first appeared in the south-east of England in the forty-first century BC, spreading slowly though central southern England over the next two centuries, before suddenly expanding into the south-west peninsula, Scotland, Ireland and probably northern England in the thirty-ninth century, and Wales a little later (Whittle, Healy, and Bayliss 2011: 862). This chronology raises severe doubts over Sheridan's 'diasporic' pattern of small communities becoming established around the coasts of Britain from 4300 BC onwards (most obviously so in the Irish Sea zone), but it equally discounts the present author's notion of a Neolithic that began more or less

synchronously throughout these islands. Evidently, all sides of the debate will need to accommodate themselves to these results.

Yet whilst the temporal framework established by Whittle, Healy, and Bayliss is hard to argue with, it does not in any definitive way discriminate between the existing explanations for the transition. If we accept that Neolithic activity began in the greater Thames estuary, in the part of the country nearest to the continent, this does not tell us whether the area was one where colonists came ashore and formed a very large 'enclave', or where cross-Channel relations were especially intense. Nor does it reveal whether this early concentration of 'Neolithic things' represented the emergence of a fully agricultural way of life. Accounting for their results, Whittle, Healy, and Bayliss present a view of the transition that introduces some important new ideas, but which also leaves some key questions unanswered. They begin by noting that a series of innovations appeared in the south-east English zone of innovation in complete discontinuity with the previous archaeology of the region. These include ceramics, new kinds of stone tools, timber buildings, domesticated plants and animals, flint mines and long mounds (Whittle, Healy, and Bayliss 2011: 852). Although all of these elements do not appear to have become established simultaneously, the authors are persuaded that they must have arrived through an initial episode of colonization, however small-scale and short-lived.

Like Sheridan, they identify the context for this movement of population as the reorganization of settlement in the Low Countries and northeast France that followed the development of the Michelsberg assemblage. During this period, enclosed sites began to be constructed in a variety of topographic settings, and as far north and west as the Pas-de-Calais (Whittle, Healy, and Bayliss 2011: 857). However, they are not convinced that migration was forced by any level of population pressure, since uncleared forest and scrub lay between many Michelsberg sites. Moreover, they see little evidence for 'the wholesale transference of continental cultural practices' (Whittle, Healy, and Bayliss 2011: 859). Thus they note that at the enclosure of Spiere-de Hel numerous lithic and ceramic types occur that are unknown in Britain, implying that any migrants to Britain may not have originated in the area immediately bordering the English Channel. The answer that they arrive at is perhaps a consequence of their study being principally focused on causewayed and other enclosures. For the earliest of these sites in Britain are located in Kent, dated to the period around 3700 BC, and seem modelled on examples in the Michelsberg province. The subsequent expansion of enclosure-building followed a pattern that seemed to uncannily echo that of the Neolithic itself three centuries earlier. It is conceivably for this reason that Whittle, Healy, and Bayliss sought an explanation that connected the two phenomena as aspects of a single process. This explanation is found in David Anthony's account of long-distance population movement and 'chain migration' (Anthony 1990; Fiedel and Anthony 2003).

What is suggested is that small numbers of people arrived in south-east England during the forty-first century BC from an inland part of the continent, having first identified areas for settlement through scouting expeditions. This founding group remained connected to their parent region over some centuries, with people moving back and forth as the numbers of settlers gradually built up. In the course of long-distance migration, the material culture of the homeland

may have been transformed, so that precise parallels with British artefacts may be absent. From a comparatively early stage in this process indigenous people may have been recruited and absorbed by the incomers. These groups consolidated their position over a period of many decades, but during the thirty-ninth century BC the pace of change accelerated abruptly. At this point, suggest Whittle, Healy, and Bayliss, indigenous groups began to accept Neolithic innovations, and these started to spread more rapidly through long-established social networks (2011: 862).

But if indigenous people are to carry the process of Neolithization forward after 3900 BC, do the initial colonizers represent an unnecessary complication of the hypothesis? The implication seems to be that Mesolithic people can become acculturated on dry land, but that colonists are required to transport the Neolithic package over a body of water. A further problem with the argument is that the authors are a little vague about both the area of origin and the cause of the migration. Thus they suggest that 'motivation could be sought in the general conditions of change on the continent' (Whittle, Healy, and Bayliss 2011: 861). Of course, if the material culture of the migrants had undergone stylistic change in the course of relocation it might be difficult to identify their homeland. But the point is that the earliest Neolithic artefacts in Britain are not *transformed* but *selected* from continental assemblages. Close parallels for individual British pots, axes and arrowheads can be found in a number of areas bordering on the Channel, the Atlantic and the North Sea. But they are generally found within more diverse assemblages. By simplifying the material repertoire, a set of artefacts was arrived at that more readily and unambiguously signified a new (Neolithic) identity.

Finally, Whittle, Healy, and Bayliss argue that it was the sustained contact between Britain and the continent fostered by chain migration that enabled a series of innovations to be transferred over a period of centuries: long barrows, long cairns, and eventually causewayed enclosures (2011: 860). Yet this conflicts with Anthony's account of chain migration, which emphasizes the enduring connection between two discrete regions (Anthony 1990: 903). For long barrows, long cairns and causewayed enclosures are not necessarily all found together in any single continental region. The diversity of the artefacts and monuments found in Earlier Neolithic Britain surely speaks of a much more complex and multi-stranded network of continental connections. Whittle, Healy, and Bayliss have made an incomparable contribution to our conception of the beginning of the British Neolithic, by setting in place the first reliable and comprehensive chronology for the period. Yet they leave the questions of cause and motivation still unresolved.

CONCLUSION

Although the quantity and quality of evidence relating to the Mesolithic-Neolithic transition has continued to increase throughout the past century, certain themes seem to have recurred throughout the debate. The difficulty of identifying a continental origin for the British Neolithic artefactual assemblage; ideas of social progress and mastery over nature; the mutual incompatibility of Mesolithic and

Neolithic ways of life. None the less, it is evident that the variety of different perspectives that has been applied to the problem has had a broadly positive outcome. Competing frameworks have contributed new insights, sometimes unintentionally. Dennell's assault on migrationist views first generated the notion that hunter-gatherers might have had an active role to play in the emergence of the Neolithic in Britain. Hodder's interest in tracing a particular symbolic structure across the continent resulted in an active consideration of the scale of communities and social action in north-west Europe. Kinnes' discussion of artefactual change, though understated, critically identified the active role of material things in the process of change. More recently, the return to traditional models has in some cases been occasioned by the emergence of new forms of evidence. This is perhaps because a focus on a single class of material tends to promote unicausal explanations. Equally, the imperative to generalise across wide geographical areas results in reductionism and oversimplification. The challenge now is to accommodate new approaches into more subtle forms of interpretation.

Mesolithic Prelude?

INTRODUCTION

As we have seen, a great variety of hypotheses regarding the character of the beginning of the Neolithic in Britain and Europe have developed over the past century. Amongst these, the degree of attention paid to the social and economic lives of Mesolithic communities has varied considerably. This is only to be expected, for the extent to which indigenous hunter-gatherer groups were actively involved in the process of change is still very much at issue. For some authors the start of the Neolithic involved the resolution of tendencies that had been developing during the Mesolithic period, while for others the Neolithic was something that overtook the indigenous population unawares. In some extreme arguments, Neolithic colonists entered an empty landscape, whose previous occupants had succumbed to disease or some other catastrophe. Yet even if we were to maintain that the introduction of the Neolithic into Britain and Ireland involved wholesale population replacement, there would still be an argument for developing some understanding of the preceding period, if only to assess the extent to which native societies would have resisted the onslaught, or have been either assimilated or annihilated. It is important to add that the discussion of the British and Irish Mesolithic has been anything but static in recent years. Some practitioners would argue that a new and distinctive Mesolithic archaeology has taken form over the past decade (Warren 2007a: 311). Consequentially, Neolithic archaeologists face the hazard of finding themselves committed to ideas about the Mesolithic that are now moribund. This chapter will draw on the combination of recent Mesolithic archaeology and hunter-gatherer ethnography in order to develop some ideas about the social, economic and material conditions that existed in Britain prior to the introduction of Neolithic things and practices. It therefore makes no claim to be a comprehensive account of Mesolithic Britain, and focuses particularly on phenomena that may be salient to subsequent developments. There is an obvious danger here of teleology, of only addressing the Mesolithic in terms of its contribution to the Neolithic. However, in practice the argument will be that British Mesolithic societies did not necessarily transform themselves into Neolithic ones in the most obvious ways, according to inevitably unfolding processes. Indeed, it was only as a result of contact with Neolithic societies in continental Europe that this change took place at all.

Although the European Mesolithic and Neolithic have often been presented as entirely separate and incompatible ways of life, it has also sometimes been suggested that processes which were generated amongst indigenous hunting

societies had a significant impact on the adoption of agriculture. As we have already seen, the most obvious example is the debate on 'complex hunters', whose sedentism and delayed-return subsistence practices are postulated to have anticipated elements of the Neolithic. Thus in southern Scandinavia and the south Baltic, Later Mesolithic Ertebølle and Ellerbeck groups developed specialized hunting, fishing and collecting strategies, used elaborate food storage, food processing and trapping technologies, and closely tended and harvested the woodlands (Zvelebil 2003: 17). These intensive economic activities were fitted into a complex seasonal cycle, but might also been connected with an increasingly sedentary way of life (Rowley-Conwy 1983: 112). The acquisition of large quantities of seasonally available foodstuffs, and their processing and storage, would have facilitated the emergence of dense, residually stable communities. However, the nucleation of a settled population might have required more elaborate social arrangements in order to resolve disputes and prevent the periodic break-up of social groups. In the process, societies with formal positions of status and authority may have developed (Rowley-Conwy 1983: 117). The existence of such 'complex' hunter-gatherer communities in the Baltic region may have retarded the advance of the Neolithic way of life, but may have established conditions under which the initial encounters between hunting and farming groups took place between communities that had much in common. Marine adaptations, increasing sedentism and growing social complexity therefore constitute a pre-adaptation to agriculture (Warren 2007a: 317).

While these arguments have something to recommend them in the Scandinavian context, their seductive attraction when applied to the British or Irish Mesolithic may be more problematic. Here, evidence for a growing reliance on marine foods in the Later Mesolithic has prompted discussions of economic intensification (see Spikins 2008: 8). In turn, this has led to the suggestion that an increasing investment in subsistence activity was driven by the combination of population rise, reafforestation, and the loss of land to rising sea levels. Yet as we shall see, population pressure, economic intensification and enhanced social differentiation are all rather more difficult to substantiate in the British Later Mesolithic. Indeed, the evidence for large-scale aggregations of population is arguably stronger in the Earlier than the Later Mesolithic (Conneller et al. 2012: 1017). The concept of 'complex hunter-gatherers' is a generalized one, derived from ethnographic observations. There are obvious problems with relying on ethnographic parallels, not least that of essentializing a 'universal' foraging way of life (Jordan 2006: 99). In the specific case of 'complex hunters', though, the problem is that an archetypal opposition tends to be set up between simplicity and complexity, with features such as sedentism, storage of surplus production, social asymmetry, use of maritime resources, and elaborate technology routinely associated with the latter (Finlayson and Warren 2010: 33). Certainly, there are many cases in which these phenomena are mutually associated, but this is not always the case, and the dangers of sorting all peoples who exploit wild resources into either 'simple' or 'complex' categories are considerable. Ethnographic analogies are perhaps better used to define the parameters of hunting, fishing, and gathering ways of life, in the expectation that there will have been considerable variability in the prehistoric past, both over space and through time. Indeed, it has been argued that since hunter-gatherer societies in the contemporary world are now generally

restricted to remote or marginal areas, such as deserts, tundra or deep forests, the diversity of such peoples in the distant past is likely to have been considerably greater (Finlayson and Warren 2010: 29).

UNPACKING HUNTER-GATHERER 'COMPLEXITY'

One way to begin to break down the simple/complex division is with the useful distinction that James Woodburn makes between immediate- and delayed-return systems (1982: 432). Immediate-return hunter-gatherers are those whose subsistence-related activities result in the acquisition of food that will be consumed at once, or at most within a few days. Very little effort goes into preparation for the pursuit of animals or the collection of plants, and in some cases food will be eaten as it is picked up. Woodburn points out that this kind of life promotes unstructured social arrangements, with very little inequality. People are unencumbered by either material possessions or elaborate social relationships. It is hard for anyone to become dominant where it is impossible to monopolize resources, everyone can simply walk away from demands and obligations, and attempts to impose authority can be met with the lethal use of weapons (Woodburn 1982: 435). By contrast to all this, delayed-return systems are ones in which people plan ahead in order to acquire food in the future. They include sedentary hunters, trappers, mounted hunters, and fishing people who use boats, weirs, and traps. Labour is not only used in the taking of food, it is also invested in the generation of assets that enable more food to be taken, and in some cases stored. These assets include hunting, gathering and fishing technology, food that has been processed or stored, and natural resources that have been refined or promoted by human action (Woodburn 1982: 433). Since these various forms of investment tend to be created collectively, delayed-return systems favour less informal social relationships, and the development of commitments and obligations to others. Consequentially, delayed-return arrangements may foster social inequality. Furthermore, because agriculture is effectively a developed form of delayed-return economics, Woodburn argues that it may be easier for these societies to become farmers (Barnard 1983: 205). Perhaps because he concerns himself principally with groups like the !Kung, the Hadza, and the Mbuti who practice a very pure form of immediate-return hunting and gathering, Woodburn tends to set up an opposition between these and 'the rest'. But it may be more realistic to think in terms of an unbroken continuum between immediate- and delayed-return systems. For instance, even a hunter who is highly mobile, stores no food and does little to transform the condition of plants and animals may invest time and effort in making and maintaining a bow, arrows or a spear that can be relied upon in the encounter with a game animal. This is a very moderate level of delayed return, but it demonstrates that investment in assets is not an all-or-nothing affair.

In most hunting and gathering societies there is a degree of tension between the value that people place on autonomy and the ability to walk away from unwelcome situations on the one hand, and sociality, conviviality, and relatedness on the other. The latter is manifested particularly in the institution of sharing. Sharing is very widespread amongst these groups, but it is by no means homogeneous in

character. Marshall Sahlins (1972: 191) described what he called the 'generalised reciprocity' of hunters and gatherers, in which giving is ubiquitous but the obligation to return a gift is weak. It matters little when a debt is repaid, or even whether it is repaid in full. While in gift economies like those of Melanesia the effect of giving is to promote social inequality through the development of debt and obligation, generalized reciprocity has the contrary effect of redistributing wealth amongst communities (Barnard 1983: 197). These arguments have been further developed by Nurit Bird-David, who points out that generosity amongst many hunter-gatherer societies does not involve a system of reciprocity at all, for there is generally little or no expectation of a return (1990: 189). Bird-David argues that in most pre-industrial societies the models that are employed to understand and structure economic activity are drawn either from human interpersonal relationships or from the human body. In gift economies, which are principally found amongst agriculturalists, goods principally circulate through reciprocity, the giving of gifts amongst kin outside of the immediate household. People perceive their place in their environment in a comparable fashion: they find themselves enmeshed in reciprocal relations with spirits, deities or ancestors who must be placated in return for blessings and sustenance. By contrast, hunter-gatherers share resources in much the same ways as siblings do, and think of the forest or the bush as 'giving environment' which bestows food and spiritual power unconditionally, like a parent to a child (Bird-David 1990: 190). This is not a system based on debt, for the obligation to share is universal.

Bird-David uses the term 'cosmic economy of sharing' to describe the network of relationships between people, animals, and the spiritual powers immanent in places and inanimate objects (1992: 30). The environment gives to humans, and they must give to each other. In practice, sharing is also enforced through a series of social mechanisms, including explicit demands for assistance. Generosity is inculcated in people from earliest childhood, and it is recognized as a fundamental source of self-worth. Giving is routinely praised, while stinginess is understood as a source of shame and is met with public opprobrium (Peterson 1993: 860). In the archaeological and anthropological literature, sharing is often explained in terms of risk-management. There is some merit in this view, for if everyone in a hunter-gatherer society had to provide for themselves the whole time, many would die, as resources are unevenly patterned over space and time. There is thus an advantage to giving when one has plenty and receiving in times of shortage (Peterson 1993: 865; Kelly 1995: 187). Moreover, if large animals or fish are being taken, it is impossible for one person to consume the whole before it rots: a single red deer will feed over fifty people, for instance. However, there is actually very little balance between giving and receiving. Some people are more skilled, more assiduous or just luckier than others in hunting, gathering or fishing, and a person does not have to have donated anything to qualify for a share (Woodburn 1982: 441). It is the inequality of success in hunting that sometimes creates the need for elaborate rules surrounding sharing. Since animals are not held as either personal or collective property, it is the hunter's spear or arrow, which slays the prey, that marks him or her out as the person who has the right to divide up the carcass (Ingold 1986: 229). However, if a particular hunter enjoyed sustained success they might build up personal prestige to the point of establishing a position of enduring authority. Various mechanisms can come into play to circumvent this situation.

Many Australian societies have established rules dictating who will be given which cuts of meat according to kin relations; Chipewyan men must give meat to their wives to redistribute; and for the !Kung it is the owner of the arrow, which has often been lent to the hunter, who shares out the kill (Woodburn 1982: 441; Kelly 1995: 164).

The imperative to share dominates immediate-return societies, but it is also present in many delayed-return systems. Here, a conflict may develop between the demand to hand food over and a desire to accumulate. Sometimes people may limit what they acquire, in the knowledge that it is likely to be taken from them, but sometimes too they may hide food from view, especially in times of shortage (Peterson 1993: 864). Since it limits the possibility of accumulating seed corn, livestock, tools or land, a strongly entrenched ethic of sharing makes it difficult for people to ever take up agriculture (Woodburn 1982: 447). Sharing relations also place limits on the acquisition of material culture, and people can rarely amass more things than they can carry about their body. Even objects that people take around with them can potentially be demanded from them at any time, although they usually maintain sole use of clothes, tools, and items of personal or ceremonial significance. But in theory anything that is open to view can be asked for. Indeed, the things that people can monopolize are more likely to be immaterial: songs, titles, myths, dances, and magical knowledge (Kelly 1995: 163). Where the strategic use of gifts to create debt and obligation does not exist, the circulation of goods takes on an entirely different character. People are not linked by chains of reciprocity, but the solidarity of members of a social group may be enhanced by their shared use of tools and other items (Bird-David 1990: 193). Material things are less likely to be used to create alliances, procure marriages, or attract followers. As a result, people have little incentive to produce fine objects that are intended specifically for the purpose of giving as gifts. Moreover, materials that occur in the landscapes that hunter-gatherers frequent are not likely to be perceived as rare or inherently valuable, although they may be understood to be imbued with the vital spirit or life-force of a particular place or topographic feature (Bird-David 1990: 194).

These constraints on ownership may be relaxed among people practicing delayed-return strategies, although here assets generally represent collective rather than personal property. Thus among groups like the Kwakiutl, the Yurok, and the Tolowa of western North America, berry patches, nut trees, and salmon runs may be the prerogative of specific kin groups (Kelly 1995: 163). However, territoriality as such is extremely rare amongst hunting and gathering societies. Certain areas may be reserved to the extent that strangers are required to ask permission to enter, and may need to be accompanied as they pass through, but this is often for fear that they may disturb either subsistence activities or sacred places. Ingold points out that for hunters and gatherers tenure does not extend over two-dimensional tracts, but relates to places and the pathways that lead between them (1986: 149). Thus a hunter-gatherer landscape is focussed on specific features and locations, where either resources or spiritual power are concentrated, and the network of movements that connects them.

These issues of immediate- and delayed-return, sharing, ownership and tenure, place, landscape, and access to objects begin to sketch out a framework that enables us to grasp something of the potential diversity of societies in Mesolithic

Britain. Another important point is the probable absence of the instrumentalist and atomistic way of understanding the world that has characterized the modern West (Thomas 2004: 18). At the risk of over-generalization, hunter-gathers usually perceive themselves to inhabit a life-world that is fundamentally relational, as opposed to being composed of free-standing entities that can be split between 'culture' and 'nature', or 'animate' and 'inanimate'. As we have seen, they are also generally engaged in acquiring sustenance from resources to which they have undivided or kin-based access. A number of consequences flow from these conditions. Firstly, the acquisition of food is never a mere technical operation, composed of discrete episodes of involvement with plants and animals. Hunters, gatherers and fishers do not go out into the world as if they were going to withdraw units of resource from a stockpile or a bank, in an entirely instrumental fashion. The world they move through is one of spiritual agencies rather than dead matter, while at the same time their daily tasks can provide pretexts for a variety of forms of interaction with others, from gossip and story-telling to flirting (Bird-David 1992: 30). Hunter-gatherers find themselves radically immersed in a field of relationships with other humans and non-humans, and any subsistence activity is embedded in the unending engagement in (and monitoring of) these relationships (Ingold 1988: 274). Not only are the killing of game and the harvesting of plant foods social activities, entailing co-operative relationships between people, but the relationships with non-humans involved are also generally recognized as social in character. This means that the maintenance of human well-being is conceived as depending on a partnership between humans, spirits, and non-human beings (Zvelebil 2003: 2). This partnership is nested in the universal principle of sharing that we have already discussed. Yet sharing extends to the way that animals share their own nourishing substance, while the forest and the sea are engaged in mutualistic relations with persons (Ingold 1988: 277, 2000: 44). If these beings are to continue to donate their vitality to humans and to reproduce themselves, they must be treated with respect (Zvelebil 2003: 6). Mutual concern, generosity, and the circulation of substance and life-force thus make up the 'cosmic economy' that Bird-David describes (Ingold 2000: 44). Consequentially, the other 'partners' in this economy are not considered to be inert resources, but animate persons, albeit of a non-human kind. Animals are persons, but the winds, rivers, rocks, and forests are persons too, because they are active participants in a productive play of forces that reproduces the material conditions of human existence. This view of the world corresponds very closely with contemporary social theories which argue that agency is not the exclusive prerogative of autonomous individuals, but is dispersed in relations between humans and non-humans (e.g. Latour 1999).

Ingold (2000: 113) makes an important distinction between two variants of the way in which hunter-gatherers conceive of their lived worlds. In the first of these, which he calls totemism, the land is seen as the source of all life and fertility. Thus animals and plants draw their vitality from the earth before passing it on to humans. Spirits and ancestors are immanent in the earth and its topographical features, and human beings dwell upon and move between locations which are at once sacred and charged with metaphysical presences. Identity, vitality, and substance are all derived from the earth, and a person's past and present relationships with humans and non-humans are mapped out in the relationships between places in the landscape. By contrast, Ingold refers to a second framework as

'animism', and here the forces of life are understood as circulating within and between human and non-human beings. All creatures depend upon the flow of vitality and substance between animate beings, yet the earth is not understood as interceding in this process. Rather than the burgeoning-forth of the earth, creation is conceived as a decentred series of exchanges between animate beings, or communities of beings. Therefore hunting and gathering is less the harvesting of the gifts that the earth makes available, and more a direct involvement in the regeneration of an integrated cosmos (Ingold 2000: 114). In animism, animals and objects are understood to have the same kind of vital force and consciousness as humans, and they engage in social relations with humans. These relationships are comparable with sharing and hospitality amongst people. This is another reason why animals must be treated with respect, for they bestow their sustenance on humans knowingly, as part of the general renewal and regeneration of the world (Bird-David 1992: 30). It may be that these two world-views are not polar opposites, and that they can interpenetrate or coexist in some circumstances. More importantly, we should not imagine that either one or the other characterized all communities in Britain throughout the whole of the Mesolithic period.

MOBILE HUNTER-GATHERERS IN BRITAIN

In the final stages of the last glacial episode, the human presence in Britain was transient, and perhaps discontinuous. The Creswellian groups of the terminal Upper Palaeolithic appear to have been highly mobile, making sporadic use of both caves and open-air locations (Barton 1999: 18). In both the late glacial and the early post-glacial, the occupation of Britain was facilitated by the development of very particular skills, and ways of understanding the landscape (Finlayson 1999: 882). Yet we should remember that the tundra landscapes of the period may well have been experienced as giving and beneficent, rather than harsh or challenging. People found themselves within these landscapes as dwellers, not opposed to them from outside. By drawing upon and modifying the cultural traditions of many generations, people would periodically have rendered themselves able to enter new areas or to gather new foods, as the landscape changed at a scarcely perceptible rate. On the British mainland, the post-glacial period saw the gradual arrival of a series of large herbivores: elk, aurochs, red deer, roe deer and pig, which eventually replaced species like reindeer (Mithen 1999: 43). If we follow the arguments proposed above, it is likely that final Palaeolithic and Early Mesolithic communities would have understood these creatures as 'persons' with whom they had mutually sustaining reciprocal relationships. A degree of affinity, or even an explicit analogy, between mobile human groups and migratory animal herds would probably have been acknowledged. Mesolithic settlement expanded into much of northern England and Ireland during the eighth millennium BC, and had covered much of both islands by the end of the seventh millennium. From about 8000 BC the 'broad blade' lithic assemblages of the Early Mesolithic were replaced by the narrow blade assemblage and very small geometric microliths that define the Later Mesolithic (Tolan-Smith 2008: 147) (Fig. 6.1).

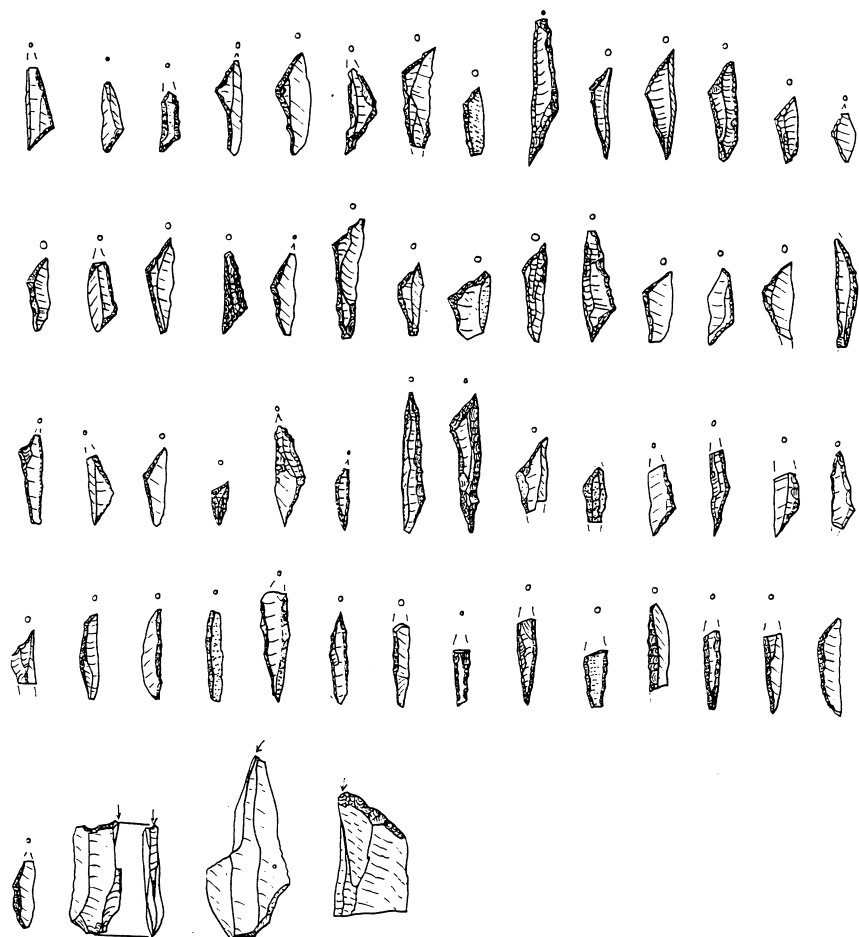


Fig. 6.1. Late Mesolithic microlithic assemblage from March Hill, Yorkshire (drawing courtesy of Chantal Conneller)

The dominant model of Mesolithic settlement and subsistence developed during the post-war period was one that asserted a close relationship between the movements of people and animals. Following his excavation at Star Carr in Yorkshire, Grahame Clark suggested that this site had been a seasonal base-camp, occupied by a moderately sized hunting community during the winter months, when red deer were aggregated in the lowlands (1954, 1972). Later, Roger Jacobi would suggest that the smaller sites on the North York Moors, such as Pointed Stone 2 and 3, were the corresponding upland hunting camps of dispersed groups, occupied during the summer (1978: 309). These were composed of little more than lithic assemblages, and suggested only transitory occupation. What Clark and Jacobi argued for was a seasonal alternation between lowland aggregation and upland dispersal, in which human movement and organization directly mirrored those of red deer (Spikins 2000: 111). The notion that Early Mesolithic hunters

ranged over considerable distances finds some support in the distribution of lithic raw materials: white flint from the Lincolnshire Wolds was transported as far as the Pennines (Mithen 1999: 51). However, later analyses suggested that the picture was more complicated than a straightforward annual migration between uplands and lowlands, and models of seasonal cycles in general are perhaps too rigid (Warren 2005b: 86). The use of the Pennine uplands may have taken the form of sporadic logistical incursions, rather than seasonal occupation, for instance (Donahue and Lovis 2003: 314). There is also evidence that the Later Mesolithic pattern in northern England was rather different, with the exclusive use of local lithic sources suggesting a decline in overall mobility, and perhaps a year-round occupation of specific regions. Yet in the south-west of Britain, some communities may have been involved in continuous movement between coast and inland during the Later Mesolithic (Barton and Roberts 2004: 352). This could be taken to indicate that in Britain as a whole the distances over which groups ranged declined over time, but that they often continued to visit a variety of landscapes.

A more elaborate view of Early Mesolithic mobility in northern Britain, and one which addressed the issue of how hunting strategies came to change in the Later Mesolithic, was proposed by Andrew Myers (1989). Myers argued that Early Mesolithic hunters had not simply followed herds of herbivores from one seasonal location to another, but that they had been able to predict their migrations, and thus adopt a pattern of logistical mobility. In the spring and autumn, they would have conducted game drives and intercept hunting in upland valleys, while in summer they would have harvested wild plants (Myers 1989: 90). The predictability of game movements in the immediate post-glacial was a consequence of the alternation between severe winters and warm summers, which encouraged the seasonal migration of animals between uplands and lowlands. In the Later Mesolithic, climatic variations became less pronounced, with the result that the whereabouts of deer and other animals at particular times of year was less easy to forecast. This difficulty was compounded by the progressively denser growth of forest, particularly in the lowlands. According to Myers, this change resulted in an abandonment of intercept hunting, and its replacement by year-round encounter hunting. Consequentially, the pattern of seasonal return to lowland base-camps came to an end, and a less structured use of the landscape was adopted, which was less likely to involve the reoccupation of sites at any time of year. The shift to opportunistic encounter hunting of ungulates brought about a change in hunting technology: bone and antler projectiles were no longer produced, and multi-element arrows were favoured. These settings of numerous microliths in a single shaft required a considerable investment of time and effort in their manufacture, but were reliable and maintainable. If there was only time to shoot a single arrow during a fleeting encounter with a deer in the dense forest, such a projectile could be expected to remain in the animal's body, causing extensive haemorrhaging and leaving a trail of blood for hunters to follow (Myers 1989: 79).

Myers' argument is a cogent one, although tightly focused on economic necessity. Its implication is that while seasonal base-camps were an important feature of the Early Mesolithic, both the practice of returning to reoccupy particular locations and the significance of specific places would have declined over time, as a more generalized pattern of movement developed. However, this does not explain the apparently enduring importance of some locations, lasting into the Later

Mesolithic, which may have been more than purely functional. Indeed, the notion that base-camps existed at all during the Early Mesolithic has itself been queried in recent years. Star Carr has been subject to a series of re-analyses over the decades, and these broadly conclude that the site was used for a variety of activities, but that hunting was more important than winter refuge (Conneller 2004: 39). The picture has been further complicated by the discovery of rather different kinds of Mesolithic sites in recent years. Substantial post-built houses at East Barns in Lothian, Howick in Northumberland, Newton in Islay, Mount Sandel in Co. Derry and at Star Carr itself may have been seasonally occupied, but do not necessarily fit the pattern of cyclical aggregation and dispersal (Woodman 1986: 8; McCullagh 1989: 28; Waddington et al. 2003; Tolan-Smith 2008: 150; Conneller et al. 2012: 1012). These structures appear to have been concentrated in the eighth and seventh millennia BC, which may indicate that they had a role in the colonization of new landscapes. In several cases their sunken floors contained deposits of midden material and a series of hearths. This suggests repeated occupation over long periods of time, to the point of creating continuity across generations (Warren 2007a: 316).

HUNTER-GATHERER LANDSCAPES

Dating to the later part of the Mesolithic period, the various sites investigated by the Southern Hebrides Project also give the impression that the ways in which places were occupied were quite varied, and not restricted to the binary pair of base-camps and hunting camps. All of the locations concerned were distinctive in some way: Bolsay Farm had evidence for intensive microlith manufacture, Gleann Mor was a more transitory hunting stand, and Staosnaig had a cut feature which may have been a stone-lined hazelnut roasting oven, as well as a substantial dwelling structure (Mithen and Lake 1996: 132; Mithen et al. 2001: 230; Finlayson 2004: 226). A similar picture of diverse patterns of inhabitation has emerged from recent work in the environs of Star Carr, in the Vale of Pickering. Here, chipped stone assemblages from a series of sites around the shores of the ancient Lake Pickering indicate that different stages of the lithic reduction sequence were segregated between a series of different locations. The testing and modification of flint nodules, the roughing-out of cores, the manufacture of blades, blanks, and tools, and the discard of used implements were all dispersed across the landscape (Conneller 2000: 140–4). All in all, the traditional model of Mesolithic hunter-gatherers inhabiting seasonal campsites, and returning each night to the same shelter, now appears too static. Instead, a constellation of tasks appears to have been spread across wide areas, and the patterns of aggregation and dispersal involved must have been considerably more complicated than previously imagined.

These results raise fundamental problems for the study of Mesolithic settlement and economy. For the tendency has been in the past to study flint scatters as if they were unproblematically related to dwelling places. As Conneller (2005: 42) notes, each scatter discovered by surface collection is identified as a bounded 'site', with a discrete assemblage of lithic tools and debitage. This assemblage provides the basis

for classifying the site to a particular type, which are defined according to subsistence activities and accordingly fitted into models of seasonal mobility. There are two flaws in this procedure: each location may represent a palimpsest of actions carried out over a period of time, and not necessarily consecutively, while the basis for identifying each as a self-contained 'site' is dubious. Items of worked flint are dispersed across the landscape, and denser concentrations of material may or may not relate to habitations that were occupied over any period of time. Rather than surrogate sites, it may be profitable to consider lithic debris as the residue of networks of action. It is conventional to portray the production and maintenance of stone tools as a series of linked actions, or *chaîne opératoire*, but this approach also demands that technological acts are played out over space as well as time (Warren 2006: 17). Moreover, in making and using these tools, people were creating the landscape itself (McFadyen 2006a: 134). As well as knapping flint and chert, they were hunting and butchering animals, cutting and processing plants, working wood and maintaining tools and weapons. Each of these acts deployed traditions of knowledge and skill within specific settings, linking together actions, materials, and places. As Conneller argues, it was the implicit mutual referencing of tasks that created the familiar and inhabited landscape (2005: 51).

Such a landscape, which takes the form of a mesh of relations between persons and places, would have been continually in motion, being made and remade. Places where raw materials, water or game could be encountered would be returned to, and pathways between them would be created by repeated visits as they became increasingly familiar. Some paths would canalize movement, others would prove unhelpful and be abandoned. Old campsites and resting places would be returned to or chanced upon and recognized, but other places and their attendant pathways would become overgrown and recede from memory (Conneller 2005: 51). Within this protean network of places, natural topographic features will have formed anchors or landmarks around which familiarity could develop (McFadyen 2006a: 128). But people were also capable of making durable marks on the landscape, whether to leave a trace of their presence, or simply as a token of their relationship with the non-human agencies of the place. These include deliberately-dug and backfilled pits, and tree-throw holes, filled with hearth-scrappings, flint waste, charcoal and animal bones (Chatterton 2006: 116; Tolan-Smith 2008: 149).

DIET AND DIVERSITY

The diversity of settlement and locational practices evident during the British Mesolithic appears to be echoed in recent isotope studies of contemporary diet. At Star Carr and Seamer Carr (both in the Vale of Pickering), the bones of dogs were analysed as proxies for human diet. The former indicated a balance of terrestrial and marine protein, while the latter was entirely terrestrial (Richards and Schulting 2003: 120). Given that the contemporary shoreline was 15 kilometres away, this suggests that different Early Mesolithic groups had distinct patterns of movement, some of which included periods on the coast. In general, the evidence

for the consumption of marine foods in the Early Mesolithic seems to have been limited, and there was no trace of marine protein in human and dog bone samples from Thatcham and Aveline's Hole (Richards and Schulting 2003: 122). For the Later Mesolithic, some inland locations have produced samples that are still dominated by the signatures of terrestrial mammals (Barton and Roberts 2004: 349), while coastal locations like those on Caldey Island in South Wales show great diversity, from diets dominated by marine foods to almost entirely terrestrial signals (Schulting and Richards 2002: 1013). On the Hebridean island of Oronsay, human remains from the shell midden of Cnoc Coig indicated a diet largely dominated by marine foods, but those from Caisteal nan Gilleann were more balanced between marine and terrestrial (Milner 2006: 73). Overall, the results give the impression that diets were by no means uniform in the earlier part of the period, and became still more varied as time went on, with some groups (but not all) showing a greater interest in procuring foods from the sea. Yet these results are best regarded with a degree of caution, for we have better information for inland areas during the Early Mesolithic, and for the coast in the Later Mesolithic (Milner 2006: 68). Much of the coastline during the period between 9000 and 7500 BC is now below sea level, and traces of any coastal dwellers of the time are lost to us (Warren 2005b: 48).

This apparently increasing emphasis on the sea and the shoreline during the Later Mesolithic is also hinted at by other strands of evidence, such as the growing numbers of shell middens that were being created. These are matched by the occurrence of lithic scatters around coasts, estuaries and rivers in some parts of the country (Barton and Roberts 2004: 352). As we have seen above, it is this evidence that is sometimes drawn on to support the notion of economic intensification. Either a rise in population or the loss of land to rising sea levels are given as explanations for growing exploitation of marine resources. Certainly, one of the effects of sea-level rise was that the length of Britain's coastline increased, and with it the quantity of potential food available from the sea (Finlayson 2004: 225). In some areas, periodic movements between the coast and inland areas may have enabled people to take fish, shellfish and seals at critical points during the year, and there are arguments that in some parts of Britain the reliance upon marine resources may have become very heavy indeed (Jacobi 1980: 191; Warren 2005b: 40). Even though this could be to some extent a response to the increasing difficulties in hunting land mammals that Myers identifies, this need not amount to intensification so much as diversification. Rather than imagine Late Mesolithic people leading increasingly desperate lives driven by food shortages, it may be more appropriate to think of them accessing a broader range of resources, with some communities perhaps beginning to specialize in the exploitation of specific ecological niches. The economic practices of Mesolithic people were undoubtedly highly sophisticated, ranging from introducing herbivores to offshore islands to hunting whales at sea (Warren 2005b: 49, 68).

Another aspect of the more diverse relationships between people and landscape that developed during the Later Mesolithic was a closer involvement with woodland. This has sometimes been referred to as 'management', although this may be an inappropriate term, suggesting a relationship of exteriority (Warren 2005b: 68). While tree cover was denser than in the initial post-glacial, with closed oak and lime forest replacing open birch woodland in some areas, it would be a

mistake to suggest that the whole of Britain was enveloped in an unbroken canopy. Natural fires from lightning-strikes, as well as wind-throw would have generated sporadic breaks in tree-cover (Tipping 1996: 53; Spikins 2000: 112; Moore 2003: 54). Recent work has also begun to demonstrate that on some subsoils and in upland regions there were appreciable areas that were never wooded, and would have constituted park-like environments (Allen and Gardiner 2009: 57). In the same way as we have argued that animals may have been considered as 'people', the role of trees in the Mesolithic world is unlikely to have been limited to that of an expendable resource. Trees might easily have been understood as animate, or even personified, and would certainly have been intimately known and remembered as landmarks (Moore 2003: 55). If the forest as a whole were a giving being, the trees within it would have been the specific manifestations of its vital energies. Human involvement with trees and other plants, if governed by the generalized principle of sharing, would have avoided the mere 'using up' of matter, and might have sought instead to ensure the regeneration of the forest, in all its complexity. Indeed, people lived in intimate proximity to trees, often incorporating branches, trunks and tree-throws into their habitations (Warren 2005b: 71). It is in these terms that we can best grasp the significance of the evidence for the burning of vegetation in the Later Mesolithic.

That plant cover was deliberately burned in the uplands during the Later Mesolithic has been suspected for some while. One of the classic sites at which palynological evidence for burning has been acquired is North Gill, on the North York Moors. Here, it has been suggested that burning took place on many occasions within a relatively short period of time. This frequency of recurrence means that it is unlikely that the fires were caused by lightning (Innes and Simmons 2000: 152). The oak-alder woodland at North Gill was repeatedly disturbed, each event being followed by successive regeneration. Significantly, fungal spores recovered from the site indicate that large herbivores had gathered in the clearings left after the burning (Innes and Blackford 2001: 191). Small fires might not always have burned out full-grown trees, but they would have retarded regeneration and enhanced openings in the canopy (Simmons 1996: 139). Much of the debate on the firing of vegetation has concentrated on its implications for game animals: forage would be improved by the removal of trees and the growth of scrub and shoots, their appearance would be more predictable, and within a clearing they would be easier to shoot with arrows (Mason 2000: 140). Equally, burning might have stopped bracken from invading clearings, and promoted the maintenance of grass (Simmons 1996: 154). But burning would also remove dead vegetation and undergrowth, and increase the rate at which nutrients were recycled back into the soil. This would mean that foods edible by humans, such as berry plants, would be encouraged (Moore 1996: 67). Moreover, speeding up the process by which vegetal matter was returned to the earth would reduce the possibility of major, catastrophic fires, and restrict the proliferation of pests. As a consequence, forest products like acorns and hazelnuts could be promoted, and it may be that the contribution of these to Mesolithic diets has been underestimated (Clarke 1976; Zvevibel 1994; Mason 2000: 142).

Where fire is used as a means of altering the composition of vegetation, there may be some delay between the initial burning and the ripening of edible plants (Spikins 1997: 1069). We should therefore not think of burning as an

opportunistic or haphazard enterprise. Even to say that it was 'planned' gives too much of a sense of discontinuous intervention. The periodic, small-scale, controlled firing of undergrowth was an aspect of a close and continuous relationship with the woodland that people inhabited. Something rather similar has been identified in the burning of the sedge beds in the area surrounding Star Carr, which would have attracted animals and wildfowl, as well as favouring the growth of edible wetland plants (Cummins 2000: 79). Furthermore, although the literature on 'fire ecology' dwells largely on the firing of upland basins, it is likely that even in the broad-leaf deciduous forests of the lowlands, some strategic burning took place. This would have exploited 'edges and patches', where natural fires or soil conditions had caused breaks in tree-cover (Moore 2000: 133). However, it is also clear that burning was not practiced throughout Britain, and there is little evidence for it in central and northern Scotland (Warren 2005b: 68). As such, the particularly intimate involvement that some groups of people developed with woodland should be seen as one aspect of the increasing diversity of subsistence activity in the Mesolithic.

THE EMERGENCE OF PLACE

As we have seen, there are two related themes in the recent literature that need to be reconciled. Firstly, the notion of a 'base-camp', at which a variety of tasks and practices were concentrated, where population was aggregated for part of the year, and from which logistic forays were coordinated, has come to be regarded with increasing scepticism. But secondly, it seems that certain places emerged from the flux of movement and action as having an enduring significance, returned to and discontinuously inhabited over very long periods of time. This appears to have been a distinctively Mesolithic pattern, not observed in the final Palaeolithic (Conneller et al. 2012: 1017). These locations have been referred to as 'persistent places', although it has equally been argued that this term does not catch the fluidity and evanescence of place-making in the Mesolithic (McFadyen 2006a: 134). The development of these favoured locations took place against a background of economic and residential diversification, so that it is difficult to attribute the phenomenon to a particular subsistence strategy or a concentration of settlement activity. As we have already observed, Star Carr was a conspicuous example of such a location in the Early Mesolithic. Here, recent work has demonstrated the presence of occupation spread over a large area, at least one post-built dwelling structure, and a large lakeside platform. The entire complex may have been in use for as long as three hundred years (Conneller et al. 2012: 1015). Other sites in the Vale of Pickering appear to have been much more short-lived, perhaps amounting to a single episode of occupation, and there seems even to have been a reluctance to return to such places (Conneller 2004: 42). It is possible that some abandoned camp-sites were considered to be imbued with the presence of past generations and their doings, and that they therefore structured the overall conception of the landscape (e.g. Gow 1995). Passing by deserted places of temporary occupation in regenerating clearings would have brought

the past to mind, even if their re-inhabitation was to be avoided. Yet this means that the longevity of Star Carr is all the more remarkable.

Although Star Carr had a lithic assemblage that was closely related to that at the other nearby sites, possessing the same microlith types and raw materials, there was also a range of other artefact types which are scarce at any other site: bone points, antler frontlets, shale beads, perforated animal teeth, and axes (Conneller 2004: 41). Significantly, many of these special artefacts were deliberately deposited at the site, and some were manufactured there as well (Pollard 2000: 128). This is specifically the case with the barbed points, blanks for which were apparently made at the site before being completed elsewhere—although finished points were brought back and deposited (Chatterton 2003: 72). It seems that certain critical stages in the life-histories of important artefacts were played out at Star Carr. These were arguably transformations or changes of state: the creation of artefacts of specific kinds, and their removal from circulation. While the presence of standing water at Star Carr rendered it suitable as a place of deposition, the creation of artefacts over a period of many decades contributed to its particular importance (Chatterton 2003). Its suitability for this purpose may not have been for entirely functional reasons. As we have seen, hunter-gatherers often understand particular places to preferentially embody vital forces or non-human agencies, making them especially suitable for transformative practices (e.g. Mulk 1994).

Some of the locations that have been identified as ‘persistent places’ were principally sites that afforded good opportunities for hunting. At Waun Ffynen Felen in the Black Mountains of Wales, a small lake basin that would have provided good visibility of game was repeatedly visited throughout both the Early and Late Mesolithic (Barton et al. 1995: 104). Small scatters of lithics document this activity, but suggest that at no point was the basin a ‘home base’ of any kind. Arguably, visits to such a place would have been embedded in habitual practice and social memory, and as it might eventually have come to figure in schemes of oral tradition and myth. Mesolithic sites that were returned to repeatedly may not have been the norm, but they have often achieved an enhanced level of archaeological visibility. The Oronsay middens, Howick, Star Carr, Thatcham, Broom Hill, Nab Head, and Downton each have a central importance in our accounts of the period, yet it may be that each had crossed a particular threshold in achieving an extended history of inhabitation (Pollard 2000: 128; Cummings 2003: 79). While the situation at Waun Ffynen Felen indicates that this could sometimes happen when topography and access to sources of food were favourable, it may be that conditions that sanctioned special or spiritually hazardous activities were often involved.

In the case of Star Carr, Conneller (2004: 45) emphasizes the transformations of animal bodies that were conducted at the site. Red deer antler frontlets were rendered into a form that could be worn by humans, elk antlers were made into mattock heads, and the bones of elk and aurochs provided the material for awls and scrapers. Furthermore, the hides of animals were worked into clothing for people, in ways that might make them look like animals. Conneller’s argument is that in each case the body parts of animals were being altered in such a way as to be used to extend human capabilities. Whether in the straightforward sense of enabling people to dig, cut or scrape more effectively than they could with their

own bodies, or in taking on aspects of animal identity, humans were appropriating the powers of animals. This mixing-up of human and animal identities, effectively creating hybrids of human and animal agency, is interesting when considered in the context of Ingold's account of hunter-gatherer inhabitation of the landscape. For if hunter-gatherers occupy a world in which flows of vital energy pass between humans, animals and places through sharing relationships that facilitate cosmic regeneration, it would seem that Star Carr was a place at which these relationships were repeatedly renegotiated. Conneller talks of humans 'becoming deer', through the breaking down and reconstruction of human and animal bodies, and this suggests not simply the exchange of energy and substance between agents of different kinds, but the hybridization of types of personhood, and the assumption of the qualities of animals by humans. If these identities were not to be continually in flux, it might be that the transformation and negotiation of personhood might only be sanctioned under specific conditions, and within particular locations. It would, after all, amount to a re-engineering of the cosmos.

These arguments start to make sense of the findings of recent research which indicates that the mammal bones found within the shell-middens of western Scotland may not have been the product of hunting conducted directly from these sites (Kitchener, Bonsall, and Bartosiewicz 2004: 80). As we will see below, these middens were probably not always general-purpose base-camps, but places where a series of very particular activities were performed. Bones of wild pig, red deer, and roe deer recovered from these sites were probably taken there specifically for the purpose of tool manufacture. Arguably, this might simply have been a time-budgeting measure: making sure that raw material was always to hand would have meant that any member of a community not engaged in subsistence tasks at any given point could have employed themselves in making bone and antler tools. But it is equally possible that shell middens had a special character, which made them appropriate for the transformation of animal body parts into points, mat-tocks and ornaments (Pollard 1996: 203).

As we have noted, the depositional activity at Star Carr involved not only barbed bone points and antler frontlets, but also beads made from perforated animal teeth, and from stone. Similar beads of shale were manufactured at the Nab Head, in West Wales, from where over 700 such items were recovered (David and Walker 2004: 312). The unusual character of the site is further emphasized by the presence of numbers of pecked and ground stone axes, most unusual in any Mesolithic context outside of Ireland (David and Walker 2004: 325). As a form of body adornment, beads can be involved in the construction of personal identity, rather than simply the presentation of the self (Wiessner 1984: 200). Simpson (2003: 45) notes that there was a significant change in the materials used in the manufacture of beads and other ornaments between the Upper Palaeolithic and the Mesolithic in Britain. In the earlier period, only bone, antler, and animal teeth were used. In the context of the arguments rehearsed above, this might suggest a translatability of human and animal identities, or at least an affinity between people and other mammals. From the start of the Mesolithic, other materials began to be used alongside animal substances. These include stone, as at Nab Head, amber, as with the pendants from Star Carr, and cowrie shell, identified at Carding Mill Bay and Ulva Cave. Simpson points out that none of these materials had been acquired from a great distance. They do not indicate the long-distance

exchange of exotica, and this would fit with the lack of prestige-goods gift exchange in many hunter-gatherer societies that we have already noted. Yet these were undoubtedly items of some significance, as some of the amber pendants had been re-perforated, indicating their retention over long periods and perhaps their use by multiple generations (Finlay 2006: 158). While some beads and pendants had been displaced from their sources, they were probably acquired during the course of a community's annual movements. As Warren (2006: 31) proposes, these objects can best be understood as 'fragments of places', which embody the relationships between people and the locations that they frequented, as well as relations between immediate kin. It may be that by wearing materials drawn from a particular location, people were seeking to partake of its personified essence, and the material and spiritual nourishment that it provided. The making and deposition of these ornaments at places like Nab Head and Star Carr provides evidence that these connections between human beings and the 'spirit of place' were not trivial. The manufacture of ornaments at certain key locations enabled persons to embody a *genius loci*, and assert their link with the absent presence of a location which was significant to their community.

The Mesolithic thus saw the formation of a series of places of sustained importance, to which people returned at intervals, for reasons that included but were not limited to subsistence practices. The hunter-gatherer landscape was one in which human and animal, persons and metaphysical beings, substance and essence, sacred and mundane were folded into one another rather than in any way opposed. Yet this landscape was not entirely undifferentiated, for the making of objects that enabled the relationships between people, animals and places to be reconfigured was restricted both spatially and temporally. Vicki Cummings (2003: 74) has proposed that as symbolically powerful and durable presences these places can be seen as precursors of the monuments of the Neolithic. This is perhaps correct in some ways and not in others.

SHELL MIDDENS AND THE SPIRIT OF PLACE

While some Mesolithic sites are considered 'special' by virtue of their having been frequented over long periods, the shell middens of western Scotland have a physical presence that can sometimes still be recognized today. Caisteal nan Gillean on Oronsay forms a mound 2 metres high, and is especially visible from the sea. However, this effect is partially a result of a build-up of sand, and other west Scottish middens are located in caves and rock-shelters, making them anything but conspicuous (Chatterton 2006: 114; Warren 2007a: 313). Both because they were more easily identified than other Mesolithic sites and as a result of affinities with shell middens elsewhere in Europe, there has been a long and complicated history of research into these sites. It is arguable that this has given them a dominant position in the literature on the period that is not entirely deserved, but they have revealed a quantity and quality of evidence that cannot be ignored, despite its potentially unrepresentative character. The Scottish middens have produced a distinctive material assemblage, including bevel-ended tools of stone and bone, chipped stone tools characterized by a bipolar technology, and a

general lack of microliths (Finlayson 1995: 263). In culture-historic terms, this was defined as the 'Obanian', and differentiated from the narrow-blade geometric industries of the Later Mesolithic, found predominantly in inland areas, which were held to be either chronologically distinct or the product of a separate cultural or ethnic group. However, while there are indications that some of the midden sites are very late indeed within the Mesolithic sequence, they were being created over a long period, with Ulva, An Coran, and Sand going back to the eighth millennium BC (Tolan-Smith 2008: 154). There is thus a chronological overlap with the narrow-blade sites, while microlithic assemblages have been located in proximity to the middens near Oban and on Colonsay (Bonsall 1996: 185; Saville 2004: 17). The balance of opinion is now that the 'Obanian' does not represent a cultural grouping but an economic strategy, involving the exploitation of shoreline resources by groups who might make and use microliths in other contexts, current throughout much of the Mesolithic period, and perhaps beyond (Wickham-Jones and Woodman 1998: 15; Saville 2003: 344). The earliest known manifestation, at Druimvarie near Oban dates to the earlier Mesolithic, while some of the comparatively large middens of the Forth Estuary have produced cattle bones and sherds of Neolithic pottery (Pollard 1996: 201; Mellars 2004: 172). Shell middens were certainly not created by a distinct 'people', but it may be too restrictive to say that they simply represent a set of coastal food-processing and tool-manufacturing activities. This is to reduce human existence to pure material production, a proposition that makes even less sense in the context of prehistory than in that of contemporary capitalism. The activities that took place at shell middens undoubtedly also had experiential and symbolic dimensions, whose contribution to the grain of Mesolithic life was no less significant.

As we have noted, the character of the shell-middens in Scotland (and elsewhere in Britain) was partially identified through comparison with those in Scandinavia, which had been extensively investigated by the Danish Kitchen-Midden Commission in the mid-nineteenth century (Trigger 1989: 82). Yet by comparison with the Scandinavian sites the British ones are small, and lack architectural elaboration (Andersen 2004; Barton and Roberts 2004: 351). Cnoc Coig on Oronsay had two hut structures and a series of hearths, which does suggest an occupation that amounted to more than a shellfish-processing site (Mellars 2004: 179). Yet it would be pushing the evidence too far to claim that the existence of these features documents the emergence of complex, sedentary, socially-differentiated communities comparable with those of Scandinavia. While in Denmark an argument has been made for the year-round occupation of midden sites (Rowley-Conwy 1981b: 52), the British examples are characterized by much thinner deposits. Yet although they may not have been permanently inhabited, the middens often demonstrate long histories of use. Priory Midden, on Oronsay, developed over a period of 500 years, for example (Pollard 2000: 128). This would seem to confirm the status of middens as culturally significant locations that were returned to at intervals over a long period. It may be misleading to present them as in any sense the precursors of Neolithic monuments, but the accumulation of material over time in particular locations was clearly deliberate, and demonstrates an imperative to contextualize a variety of practices in relation to past actions (Warren 2005b: 84).

Why shell middens should have proliferated during the Mesolithic remains a topic of debate. They are principally composed of the debris from the consumption of marine molluscs, which from a purely calorific point of view represent a poor investment of time and effort (Mellars 2004: 174). They have often been explained in terms of either the intensification of subsistence activities, or the provision of 'famine food', which could be consumed if all other sources of sustenance had failed. These arguments rest on the impression that Mesolithic populations were straining at the bounds of carrying capacity, and would sporadically have had to resort to the use of inferior resources in order to survive. Yet such views are in conflict with the evidence that the use of shell-middens was routine, if sporadic. While foods drawn from the sea may have been relied upon to a greater extent during the Later Mesolithic, they would appear to have represented one aspect of a way of life that was maintained continuously over a considerable period of time. Their use was not the consequence of either long-term scarcity or short-term fluctuations in the availability of food. Instead of either intensification or endemic crisis, shell-middens are better understood as an aspect of a process of progressive diversification in subsistence practice, and of life-ways in general. As landscape features, middens represented a palpable trace of repeated human presence, even if not always one that could be appreciated from the surrounding landscape (Mellars 2004: 176). Although the taking of shellfish would have provided dietary novelty or variety, the shells also marked a place at which activities and cycles of movement might be coordinated (Cumplings 2003: 76). The midden deposits generally contained the remains of other foods (fish, dolphins, seals, crabs, otters, seabirds, hazelnuts, as well as the bones of terrestrial animals), and artefacts relating to a variety of activities. Some of the 'limpet scoops' and 'limpet hammers' may have been used in the processing of marine molluscs, but the latter might also have been employed in cleaning seal-skins, which could have been used for making boats (Saville 2004: 191). Antler mattocks are also found, which might have served to cut up the carcasses of whales and seals. And as we have already noted, terrestrial animal bones were worked into tools at middens, as with the lower limbs of red deer and pig taken to Cnoc Coig (Conneller 2006: 160). The practices that people concerned themselves with at midden sites were generally different from those that were conducted inland, whether because they were directly connected with the sea and its creatures, or because they involved spiritual or metaphysical forces. Middens were neither exclusively 'functional' nor exclusively 'ritual', and indeed the distinction between the two might have made no sense to Mesolithic people. Pollard (1996: 203) suggests that as places situated on the shoreline, middens may have been 'marginal' or 'liminal', and while this may rely too heavily on the separation of land and sea into two opposed categories, it catches the sense that these were places in which the modes of conduct employed at other times of year and in other landscape zones might have been modified or relaxed.

MIDDENS, LANDSCAPE, AND SEASCAPE

The seasonal occupation of midden sites was strongly suggested by the extensive fieldwork conducted by Paul Mellars on the small Hebridean island of Oronsay

(Mellars 1987). Here, a group of five middens occupied during the fifth millennium BC produced assemblages which included fish remains, which were dominated by saithe (or coalfish) (Mellars and Wilkinson 1980: 19). The size distribution of the sagittal otoliths of these fish is a sensitive indicator of the time of year at death. Surprisingly, the results of analysis indicated that each midden had been occupied at a particular time of year, but that all seasons were represented across the island as a whole. Two possible interpretations have been proposed for this evidence. It is plausible that all of the midden sites on Oronsay were created and used by a single human community, who remained on the island year-round but moved seasonally from site to site. Such a group would have had a diet that was dominated by marine foods. But it is equally conceivable that the island was frequented by groups of people from the larger islands of Jura, Islay, and Colonsay, or from the Scottish mainland or the Mull peninsula (Mithen 2000: 302; Mellars 2004: 177). If so, these would have been people who alternated between the hunting of terrestrial mammals for meat, using a microlithic technology, and the gathering of shoreline resources, at different times of year. Recent results from the isotopic analysis of human remains from Oronsay are somewhat equivocal. While bones from the Cnoc Coig midden indicated that some people had consumed large quantities of marine protein during their lifetimes, samples from Casteal nan Gilleann suggested a diet combining both marine and terrestrial mammals, perhaps red deer and seals (Richards and Mellars 1998: 178; Richards and Schulting 2003: 124). This may indicate a more complex pattern than previously imagined, with some groups spending a greater proportion of their time on the island than others, while it is also possible that particular people may have moved from one community to another through marriage. The pattern is further complicated by the mutual exclusivity of the radiocarbon dates from Colonsay, Islay and Jura on the one hand, and Oronsay on the other, which could be argued to indicate that hunter-gatherers 'withdrew' to Oronsay in the later fifth millennium BC. The presence of bones from the bodies of men, women and children from the middens at Cnoc Coig, Casteal nan Gilleann II, and Priory Midden perhaps suggest that the island was frequented by entire communities, rather than small logistic groups (Warren 2005b: 39).

In any case, the material from Oronsay demonstrates that shell-middens were generally places to which people returned at intervals, in some cases with a degree of regularity. The presence of human remains at these sites is itself instructive. At sites such as Cnoc Coig and Carding Mill Bay, disarticulated skeletal fragments were dominated by the small bones of the hands and feet, as well as clavicles (Pollard 1996: 204; Pollard 2000: 131; Chatterton 2006: 115). The parts that are missing are the larger skeletal elements: skulls, and the major limb bones. This suggests that post-mortem exposure was being practiced, in which bodies were left to rot down at midden sites, before specific bones were removed for use elsewhere. The small bones had sometimes been rearranged, in some cases placed on seal flippers, perhaps evoking affinities between humans and marine mammals (Conneller 2006: 161; Warren 2006a: 31). At other sites such as the fissure 'burial' at Portland Bill in Dorset, human skulls have been found which can arguably be dated to the Mesolithic, while skulls may also have been deposited in the Thames and other rivers (Simpson 2003: 48; Chatterton 2006: 107). If at shell-middens the themes of rotting, decay and transformation were linked (the decay of food

remains and animal bodies, and their transformation into human tools), it might be that middens represented appropriate places for the bodies of the dead to be gradually transformed into clean bones. As well as middens, rivers and crevices, human bones were also introduced to caves, open shafts, occupation layers and pools. This has prompted the speculation that disarticulation may have been the most common form of mortuary practice during the Mesolithic. Bodies may have been deliberately dismembered, or allowed to rot and be pulled apart by animals, or both. They may also have been curated, with body parts being moved around and deposited in auspicious locations (Conneller 2006: 139). The implication of this might have been that the presence of the deceased person was extended across the landscape, or simply that they were absorbed into the places that they had known in life.

The 'landscape' in which the shell-middens were distributed was more accurately a seascape. Given that inland areas were predominantly (if patchily) wooded, in the northern part of the Irish Sea zone in particular, mobility and communication would have been predominantly seaborne (Warren 2000). Even on land, water would have been fundamental to patterns of movement, through river corridors and along coastlines (Spikins 1996: 88). Around the coast, between islands, and up and down the major rivers, much travel may have been by boat (Pollard 2000: 131). The boats concerned are likely to have been made from seal-skin stretched on wooden frames rather than dug-out canoes (Saville 2004: 203). As we have noted above, the 'bevelled pebbles' found at many coastal Mesolithic sites may provide evidence for the processing of seal skins, while a birch-wood paddle was found at Star Carr (Jacobi 1980: 189). Although there is little evidence of deep-sea fishing during the Mesolithic, a variety of activities, from hunting trips and wildfowling to visiting and exchange transactions, may have been facilitated by boat transport. Moreover, it is arguable that the occupation of the western coasts of Britain was primarily a maritime process, which demanded sophisticated technology and advanced seafaring skills (Tolan-Smith 2008: 151). The Hebrides and Orkney were both colonized during the Mesolithic, and the late fifth millennium BC oyster midden at West Voe in south Shetland demonstrates that these islands too had been occupied by boat (Gilmore and Melton 2011: 69). The ability to navigate a boat will have been one that was limited to specific people, and this will have conferred on them the capability to acquire certain kinds of knowledge: about the movements of particular species, and or the doings of more or less distant human communities. Both the capacity to build boats and navigate them, and the experience of having crossed the water on particular trips, will have contributed to the development of personal identities in significant ways. A person's first prolonged boat-trip might easily have been equated with their coming to adulthood (Warren 2000: 100).

Given the demonstrable movement of people and animals by sea between Britain, Ireland, and these various islands during the Mesolithic, the arguments that have been raised concerning the apparent cultural separation of Britain and Ireland are quite curious. Peter Woodman suggested that the Mesolithic population of Ireland may have been large enough to be independently biologically viable, and may thus have been endogenous. Whatever contact had taken place across the Irish Sea had been insufficient to affect lithic traditions, yet he conceded that these might 'be in part a product of an unconscious process of self-identification'

(Woodman 1981: 107). More recent perspectives might propose that self-identification through material culture variation is more often an *explicit* process, and that as a consequence the similarity or difference of artefact styles between two geographical areas is in no sense an index of the degree of social contact between them (*contra* Wobst 1977). We will return to these issues at greater length in Chapter Eight.

LITHICS AND SOCIETY

One of the clearest indications that Mesolithic people travelled extensively by boat is provided by the distributions of particular raw materials used for the manufacture of stone tools. In maritime western Scotland, various forms of high-quality stone with restricted sources were evidently transported between land masses, often involving trips specifically to acquire raw materials. These included Rùm bloodstone, baked mudstone and chalcedonic silica (Hardy and Wickham-Jones 2003: 381). Neither the quantities of material, nor the distances travelled compare with the much more extensive exchange networks of the Neolithic. Indeed, as the period progressed there was increasing use of local raw materials, suggesting either a reduction in mobility or an increasing affinity between social groups and particular locations (Warren 2005b: 108). This might easily mean that very little of this material actually passed from hand to hand, and that its translocation can largely be attributed to some form of embedded procurement. That is to say, the medium-distance movement of lithic materials was principally a result of people acquiring stone in the course of their seasonal movements from place to place, or perhaps venturing out to fetch it logistically. Such a pattern is commensurate with societies that practice little gift exchange, and do not generally acquire raw materials in order to turn them into prestige goods. A similar argument might explain the contradictory evidence that Woodman (2004: 294) identifies further south in the Irish Sea. The Later Mesolithic communities of Ireland and the Isle of Man had essentially the same lithic technology, yet there is little trace of any exchange of raw materials between them. Nor is there any Antrim flint of Mesolithic date in south-west Scotland, where the assemblages were based on beach pebbles (Saville 2003: 347). Perhaps we should not necessarily expect sporadic or even habitual contact between Ireland and other islands to be marked by the circulation of lithic raw materials. Flint and chert are part of the fabric of the landscape. We have already suggested that stone beads, shells and other forms of body ornament were a means by which people established a connection between themselves and particular places, carrying the memory of a location with them over the course of the year. It is conceivable that stone tools had something of the same significance: that the process of going to a particular place to seek stones, working them into tools, and carrying them to other places to use was a means by which people gave form to a personal identity that was stretched across space. In a sense, this would have rendered stone tools inalienable, the prerogative of a particular community.

Similar patterns marked the circulation of lithics across country, as well as by sea. Materials were commonly carried tens of kilometres from source, but perhaps

not hundreds. At Star Carr, translucent flint had been brought 40 kilometres from the Vale of Pickering (Conneller and Schadla-Hall 2003: 88). In the Pennine uplands, white flint from the Lincolnshire Wolds 80 kilometres away is often found. Flint from Yorkshire is often located in the Wear Valley, and flint, chert and mudstone travelled over 80 kilometres to sites in South Wales (Barton and Roberts 2004: 349). The occurrence of these materials has often been regarded as evidence for the seasonal movement of human groups, and by the Later Mesolithic it appears that the range of these movements had become more restricted (Spikins 2000: 115). This provides further support for a picture of embedded procurement, rather than any form of long-distance exchange. Only isolated instances such as the 'Irish' core axe from Kircolm in Wigtownshire indicate that stone tools may have passed from person to person over substantial distances (Saville 2003: 345).

Stone tools were evidently implicated in personal and group identity in a variety of ways. Probably the archetypal artefact of the Mesolithic is the chipped stone microlith, and recent years have seen some debate over the function and significance of these objects. In some cases, microliths have been found mounted in multiple settings to form projectiles, predominantly arrows (Myers 1989: 79). The tendency has been to identify microliths exclusively as items of hunting equipment, which are implicitly assumed to have been both made and used solely by men (Finlay 2000: 27). Some support for this functional attribution (if not for its gender coding) is found in the microliths embedded in a pig skeleton at Lydstep Haven and an auroch's skull at Ham Marsh (Myers 1989: 81). However, microwear analysis has demonstrated that microliths were also used as borers, saws and piercers. There is certainly a bias built into these analyses, as the microliths that have been studied have generally come from excavated occupation sites, while arrowheads are more likely to have ended their use-lives offsite, having been shot at animals (Finlayson 2004: 224). None the less, it now seems beyond question that microliths represented a multi-purpose technology, and that they could be used individually or mounted multiply in various ways to achieve a variety of ends. Moreover, there appears to have been no particular relationship between the form of a microlith and the use to which it was put. This is significant, for microliths form a number of very distinctive types, which have been endlessly typologized. These might easily be identified with 'industrial traditions', but this is in itself relatively uninformative.

The change from the earlier to the Later Mesolithic brought a shift from broad-blade to narrow-blade microlithic technologies, the latter being more diverse in form (Mithen 1999: 38). Analysis by Jacobi (1979: 57) suggested that these could be grouped into a series of 'style zones', concentrated in areas such as the Sussex Weald, the Pennine uplands, the East Midlands and East Anglia, and the south-west peninsula. If the formal variation of these artefacts is not functional, it is tempting to correlate style with social groupings, and suggest that each 'style zone' represents a distinct Late Mesolithic community, or even 'tribe'. The problem with this is that microliths are tiny objects, which would not work well to signal group affiliation at any distance (see Wobst's arguments concerning the 'target groups' of stylistic variation in material culture: 1977). Even their manufacture by retouch would have taken place in a manner that would hide their final form from the onlooker, while their hafting in an arrow would obscure them further (Finlay

2000: 28). While it is likely that differences in microlith form would have been readily appreciated by those who made and used them, this could only have happened in contexts where they were seen at close quarters, and probably even handled. Unhafted microliths might have been passed between intimates, and would have enhanced their personal connectedness. But the idea that these tiny objects expressed growing tensions between mutually antagonistic social groups may have been overstated.

Over the Mesolithic period in north-west Europe as a whole, there was a long-term trend toward greater heterogeneity in stone tools. In both Scotland and Ireland, for instance, the earliest Mesolithic assemblages were broadly comparable with those found in other parts of the continent (Woodman 2004: 285). The Irish Later Mesolithic assemblage was idiosyncratic in character, while in Scotland highly specialized tool types developed, as well as distinctive narrow-blade assemblages. Over time, the spatial extent of particular artefactual sets appears to have declined (Spikins 2000: 102). This may indicate that more localized identities were emerging, but equally that the ways in which identity was articulated through material things was changing. As noted above, the change from earlier to Later Mesolithic was marked by the development of projectile points characterized by *multiple* settings of microliths. These are generally composed of numerous examples of a single type of microlith, although in some cases more than one kind may be present (Myers 1989: 81). For Myers, these multiple-element tools represent a technology with a high level of redundancy, which reduces risk in encounter hunting. However, Finlay (2003: 169) stresses both that other composite tools beside arrowheads were being made, and that such tools might be the handiwork of more than one person. The knapper of the microlith might not be the same person who fixed it into an armature, and indeed persons of different genders or age-grades might have been involved in different stages of the process of manufacture. Finlay describes this situation as one of 'multiple authorship', and the implication is that both the object itself and its makers were multiple, or fractal. This would suggest that artefacts composed of multiple microliths amounted to a physical embodiment of a process of enchainment, in which aspects of a number of persons or their agency were tied together through the construction and use of the object (Chapman 2000: 28; Fowler 2004: 66). In the case of projectile points, the arrow that killed a deer became the vector of a multiple and hybrid agency, and a sign of the sharing of both the responsibility for the kill and of a right to the nourishment to be acquired from it. Distinctive microlith types might identify the maker as a person of a particular kind—even as the member of a particular regional community—but their multiplicity and combinatory character, and the fact that they might at times be mixed together, indicates that the relationship between human identity and material culture in the Later Mesolithic was a complex one. People and their effects could be broken down and recombined to form new entities. The multiple-microlith projectile was thus a 'happening', in which a particular identity emerged and was acknowledged. The enchainment and meshed identities of persons, and their engagement in the 'cosmic economy of sharing' would have been brought to mind during each activity that the object was involved in: manufacture, hunting, cutting the arrow from the carcase during butchery. At an intimate scale, such an artefact was the place at which a skein of social relationships became visible: not reciprocal relationships between

autonomous individuals, but a network in which the aspects of persons and things were dispersed.

CONCLUSION

Research over the past decade has subtly transformed our view of the British Mesolithic, and this in turn means that the way that we imagine the conditions that surrounded the beginning of the Neolithic needs to change. In the past, arguments for continuity between Mesolithic and Neolithic have tended to rest on processes of population growth, economic intensification, and increasing social hierarchy. It may be that the desire to cast Mesolithic people as active agents in the development of the Neolithic has meant that these ideas have been treated a little uncritically. By contrast with southern Scandinavia, the arguments for 'complex hunters' with elaborate hierarchies and year-round residential stability are quite flimsy in either Britain or Ireland. An increasing interest in the sea and shoreline resources does not amount to an intensive marine-based, delayed-return system comparable with the Pacific north-west of continental North America. All of the indications that we have are that in the post-glacial period, hunter-gatherer groups in Britain underwent a process of progressive diversification, in which growing familiarity with the landscape enabled people to develop ways of life that were stable and secure. It is unclear whether population levels were constant or gently increasing, but it seems unlikely that they were pressing insistently on carrying capacity. The progressive embedding of human communities into the British landscape involved not only the greater use of the sea, but also an embedding in the life of the woodlands, selectively burning off undergrowth to promote the growth of food plants, reduce pests, and encourage browsing animals. These processes can be understood as connected through a 'cosmic economy of sharing', which imagined humans, animals, natural forces, and metaphysical beings as enjoying social relations with one another. Within this scheme of things, people were increasingly tied to places as well as animals. We have suggested that the tangible manifestations of these connections were pieces of the substance of places, in the form of bodily ornaments and the raw materials for stone tools. If these were understood as parts of the 'body' of a place, they might have been inalienable, not to be passed on in exchange to persons outside of the immediate social group.

By the end of the Mesolithic, people in Britain had diverse patterns of mobility and economic practices, involving varying degrees of delayed-return, and it is likely that they also had a range of social structures and cosmologies. It is most improbable that we can choose a single ethnographic parallel and hope that it would correspond to the lives of these different communities. They were certainly not on a uniform trajectory leading towards agriculture and social complexity, and it is very difficult to speculate about what would have become of them if they had not come into contact with continental Neolithic societies. Their very diversity makes it unlikely that they would have been forced over a short period of time into any shared pattern of economic change by climatic instability, resource failure, or environmental change. For many of these communities, sharing will

have been central to their way of life, and they would have had a built-in resistance to the adoption of an alternative based upon domesticated plants and animals. Their initial encounters with such a system would probably not have led to immediate change. The first seed corn and cattle that such societies acquired would undoubtedly have been shared out and consumed immediately. Yet contact situations in which prestige goods and animal wealth begin to percolate from one kind of society into another tend to have a corrosive effect on established cultural patterns over the longer term (Verhart and Wansleben 1997: 66). Hunting and gathering societies have levelling mechanisms which limit the possibilities for accumulating wealth and prestige. But those mechanisms may not be indefinitely resistant to external pressures. Mesolithic societies in Britain seem not to have exchanged exotic artefacts amongst themselves, but once fine goods of continental origin began to circulate, tensions between egalitarian traditions and growing acquisitiveness will have developed. Similarly, once the implications of amassing herds of animals that could be converted into gifts and feasts began to be appreciated, there would have been a growing incompatibility between the imperative to share and the desire to accumulate. These frictions may have taken generations to work themselves out, always against the background of continental developments, and changing conditions of contact. However, although this process might have been a very long-term one, this would not necessarily have been gradual, in the sense that individual communities shifted imperceptibly from Mesolithic to Neolithic. For any particular group, the decision to change involved the abandonment of an existing way of life, as much as the adoption of the new one. As much as 'becoming Neolithic', they were 'ceasing to be Mesolithic', and this involved the dissolution of a whole network of relationships and traditions that were based upon the assumption of universal generosity.

Times and Places

DATING THE MESOLITHIC-NEOLITHIC TRANSITION

As we have already seen, the way in which we understand the beginning of the Neolithic in Britain depends upon a series of aspects of chronology and temporality: when changes took place, how long they took to happen, and whether they occurred simultaneously in different places. These questions raise a complicated tangle of issues concerning the accuracy of radiocarbon assay (the principal dating method for the period under consideration), the archaeological visibility of cultural practices, the representativeness of the evidence available to us in the present, and the scale of historical processes (Fokkens 2008: 19). Whittle, Bayliss, and Healy (2008: 66) have recently drawn attention to the way that accounts of prehistory have been restricted to generalization by the coarse grain of the chronologies available: both the lack of precision with which individual events can be 'pegged', and the comparative paucity of the determinations so far acquired. But these difficulties are compounded by the conceptual problems of what we consider an event to be, and how we imagine that it should manifest itself archaeologically. For instance, Beck et al. (2007: 834) define events as 'sequences of occurrences that result in transformations of structures'. But as Lucas (2008: 59) points out, this erodes the particularity of the event, and tends to fix it at a particular level within causal relations. Lucas emphasizes the character of the archaeological record as a palimpsest, which is composed of the leavings of multiple events, each of which was constituted by a relational conjuncture of people and things. His stress on residuality is critical for the way that we seek to date events in the past, for each episode draws upon and reworks the residues of past happenings (2008: 64). The materials that we use to date the past have to be understood as having been implicated in this kind of process.

A critical attitude toward radiocarbon evidence has been slow in coming, however. The first dates acquired for the British Neolithic occasionally prompted incredulous responses (e.g. Piggott 1954: 296, 380), but in all fairness their reliability was questionable. Standard deviations were often very large, while samples from sites such as Windmill Hill were sometimes bulked from material recovered from different contexts (Smith 1965: 11). Yet it was in the archaeology of the European Neolithic that radiocarbon dating was first to have a notable impact. The recalibration of 'raw' radiocarbon dates using first data from American bristlecone pines and later Irish bog oaks demonstrated that many of the megalithic monuments of western Europe were actually older than the structures that had previously been identified as their prototypes (the Egyptian pyramids, the

shaft-graves and 'cyclopean' walls of Mycenaean Greece, the Maltese temples) (Renfrew 1973a: 115–17). However, between the 1970s and the 1990s a more cautious view of carbon dating began to emerge, which stressed the need for a detailed appraisal of each sample and its context (Dean 1978; Kinnes and Thorpe 1986: 221; Gibson and Kinnes 1997). At this time, single-entity dating began to be seen as a priority (reducing the possibility of combining material of different ages by using a single organism that had ceased exchanging carbon with its environment at a specific time), and calibrated radiocarbon dates increasingly came to be represented as probability distributions (Ashmore 1999: 124; Bronk Ramsay 2008: 255). In the case of the British Mesolithic-Neolithic transition, Kinnes (1988) was to argue that the incautious use of the available dates (such as those from Ballynagilly in Ireland, or relating to the decline of elm pollen in environmental sequences) had given the erroneous impression that the change had been very protracted, and in particular that its beginning could be traced back into the middle of the fifth millennium BC (see also Whittle 2007a: 378).

One of the first attempts to provide an evaluative overview of the dating evidence for the start of the Neolithic in Britain was provided by Elizabeth Williams (1989). Williams established explicit criteria for assessing the reliability of carbon dates, before interpreting the assembled determinations that appeared trustworthy. Most of her criteria were entirely laudable: only samples in direct association with Mesolithic or Neolithic artefacts were to be accepted; dates with standard deviations of greater than 160 years were rejected; if there was only a single date from a particular site, it would only be employed if there was evidence of careful pre-treatment to avoid contamination; early dates from a site that had other, later dates were only accepted if they were in a position of stratigraphic priority (Williams 1989: 511). However, Williams' decision to use only dates on wood and wood charcoal now seems curious. In order to avoid the 'old wood effect' associated with mature oak charcoal, charcoal dates are now generally only accepted on short-life material, or material that clearly derives from the outermost rings of a tree. On the basis of her findings, Williams argued that there had been something of the order of 300 years of overlap between the Mesolithic and Neolithic in Britain, with the process of transformation beginning rather later in Scotland than in southern England (1989: 516). In terms of Zvelebil and Rowley-Conwy's (1984, 1986) three-stage model of transition, there had been a lengthy 'availability phase' during which there had been only a limited take-up of agricultural resources by indigenous Mesolithic people, followed by a period during which hunting and farming were pursued side-by-side. According to Williams, it was only after the economic changes had been in place for some while that the construction of earth and stone monuments began.

In more recent years, it is arguable that a further 'radiocarbon revolution' has taken place, with the application of Bayesian statistics to radiometric dating. Thomas Bayes' theorem dates to the eighteenth century, and is concerned with conditional probabilities, allowing new information about a phenomenon to be evaluated in the context of existing knowledge (Bayliss, Bronk Ramsay, van der Plicht, and Whittle 2007: 3). In the first instance Bayesian approaches were applied to the calibration of radiocarbon dates, but it was soon recognized that they offered the potential for integrating a variety of different forms of chronological information (Buck 2004: 1). Most significantly, Bayesian methods make it

possible for the purely numerical outcomes of radiocarbon analysis to be qualified and modified according to the details of archaeological context and stratification. This is achieved through the probabilistic modelling of date estimates. Importantly, Bayesian approaches are well suited to the fragmentary character of archaeological evidence (Bayliss and Bronk Ramsay 2004: 27). While straightforward radiocarbon analysis dates samples, Bayesian approaches shift the focus onto archaeological *events* or happenings. This point, together with a concern with residuality, means that the theoretical considerations discussed above become particularly important in relation to Bayesian chronological analyses. Once the concern ceases to be simply with the age of a particular object, and is instead with the time at which materials were incorporated into deposits, or structures built, the freshness of a sample when it entered the ground becomes of prime importance (Bayliss and Bronk Ramsay 2004: 33). By implication, the pathways by which objects circulated and were interacted with by people before their deposition effectively have to be reconstructed. Samples now require biographies rather than mere identifications. None the less, in Neolithic archaeology in particular there remains a tension between dates that relate to *entities* and their dispositions, and the desire to date *practices*, even if modelling arguably brings us a step closer to that end.

Conventionally, Bayesian analyses of dating operate by establishing a predictive model based upon the available archaeological information (or multiple parallel models), and comparing a predicted distribution of dates with the actual observed radiocarbon distribution (Bayliss and Bronk Ramsay 2004: 34). The intention is to test the accuracy of the model, and in the process to refine the precision of the dating of particular events in an archaeological sequence. The fundamental problem that the approach has to contend with is that of 'scatter'. Any radiocarbon date is expressed as a range of possibilities within which the actual age is likely to occur. If the same material from the same context were to be repeatedly dated, the outcome would be a scatter of dates, and these could give the impression that the episode being dated was protracted—even if it were not (Bayliss, Bronk Ramsay, van der Plicht, and Whittle 2007: 3). The more dates are acquired, the earlier will be the first and the later will be the last. The intention of the Bayesian approach is to use the information available from context and stratigraphy to truncate this scattering effect, and to reduce the 'smeary' character of prehistoric chronologies (Baillie 1991).

The application of these procedures to the British Neolithic has had a transformative effect. In particular, initiatives aimed at particular classes of monuments (causewayed enclosures and long barrows) have clarified their chronology to a quite unexpected degree (Healy 2004; Whittle, Bayliss, and Healy 2008: 66; Whittle, Healy, and Bayliss 2011). At one point, it was possible to present a model of the earlier Neolithic in which change was very gradual, and in which different kinds of monuments existed alongside each other, forming a kind of hierarchy of different scales of social organization and labour investment (e.g. Renfrew 1973b: 547). A series of detailed dating studies relating to earthen long barrows and long cairns in central southern Britain have recently been undertaken, which have created fine-grained internal chronologies for these sites (Bayliss, Bronk Ramsay, van der Plicht, and Whittle 2007: 4; Meadows, Barclay, and Bayliss 2007: 62; Wysocki, Bayliss, and Whittle 2007: 76). These have

provided accurate estimates for the construction of each site, as well as a good sense of the duration of activity at each. Rather than commencing at the start of the Neolithic in this area, these monuments were largely constructed in the thirty-eighth to the thirty-sixth centuries BC, and individual structures were often in use for only three to five human generations. Causewayed enclosures on the other hand began to be constructed a little before 3700 BC, with the earliest examples occurring in south-east England (Allen, Leivers, and Ellis 2008). New enclosures began to be built in various parts of Britain over a period of 200 years or so, and the time that each spent in use varied considerably, although in some cases it was quite short (Whittle, Healy, and Bayliss 2011: 704). All of this begins to undermine the notion that monuments had a 'systemic' role to play in an essentially stable Neolithic society, functioning as redistributive centres or as recurrent manifestations of enduring political structures. The new information demands that causewayed enclosures and long barrows should now be addressed at two levels: regionally, as cultural phenomena constrained within periods of centuries rather than millennia, and locally, as episodes of construction and use arising out of quite particular social and material conditions. Interestingly, while the use-lives of specific barrows and enclosures may have been surprisingly brief, monuments that were morphologically similar to each other continued to be created over much longer periods, so that the outward appearance of a structure may provide only a very general indication of its precise date. Equally, architectural similarities between tombs and enclosures in Britain and on the continent provide no guarantee of their contemporaneity, and it seems that in some cases British monuments emulated distant structures that were already some centuries old.

The refinement of the dating of causewayed enclosures and long barrows demolishes the idea of an earlier Neolithic that was broadly homogeneous over 600 years or more, only to be abruptly transformed by the emergence of henge monuments, single grave burials and new ceramic traditions (Whittle, Bayliss, and Healy 2008: 66). Moreover, it establishes the notion that in some regions at least there may have been a 'pre-monumental' initial Neolithic characterized by pit deposits, fine Carinated Bowl pottery, rectangular timber halls, flint mines, wooden trackways, large middens, and the first appearance of domesticated plants and animals (Whittle, Bayliss, and Healy 2008: 66). One immediate point of concern here is that all of the long mound sites that were initially subjected to intensive chronological analysis were located in the south of England, while causewayed enclosures are in any case a predominantly southern British structural tradition. A critical evaluation of the relationships between Neolithic beginnings and monumentality at the regional level is therefore required. In this connection it may be significant that while carinated Grimston bowls are generally recovered from non-monumental or pre-monumental contexts in the south, they are more often found directly associated with long barrows and related structures in Scotland and northern England. We will expand on this point later in this chapter. Furthermore, the two megalithic tombs of Coldrum in Kent and Broadsands in Devon have produced new series of dates that fall relatively early within their local Neolithic sequences (Whittle 2007a: 382; Booth et al. 2011: 71). As we will see in Chapter Nine, these results can be more satisfactorily reconciled when we cease to think of monuments as constructed entities that serve as indices of available labour or surplus production. When monuments are addressed instead in terms

of projects, practices, and histories of place it is clear that what is being dated is often the terminal stage of a sequence whose earlier manifestations may have been anything but 'monumental', and that this process may have been played out over a shorter or longer period. It follows that asking whether monuments appeared earlier in some areas than others may be less important than considering the inception and maturation of the practices that culminated in the emergence of what we today recognize as monuments.

Given the advances made through the application of high-precision radiocarbon dating and Bayesian analysis, it is interesting that one significant recent contribution to the chronology of the earliest Neolithic in Britain proceeds in a rather different fashion. Collard et al. (2010) present an analysis of radiocarbon date densities which purports to confirm Sheridan's (2000, 2004, 2007a) model of a fully agricultural Neolithic introduced to Britain by the migration of a series of discrete continental groups, who arrived in different regions. Collard and colleagues (2010: 867) use the relative occurrence of carbon dates over time as a proxy indicator of human population, arguing that the introduction of agriculture would have resulted in a 'demographic transition', in which a relatively slow growth in numbers amongst hunter-gatherers was replaced by rapid increase amongst farmers. The use of radiocarbon dates in this fashion is relatively well established, going back to Rick's (1987) investigation of population levels in pre-ceramic Peru. However, it is generally maintained that the method is subject to errors caused by the distorting effects of taphonomic bias, calibration plateaux, and site sampling, which may result in entirely spurious patterns (Armit, Swindles, and Becker 2013: 434). For this reason, it is often recommended that the results are set against other proxy indicators of population, such as artefact densities and discard rates (Williams 2012: 586). Collard et al. propose that migrating agriculturalists would be distinguished by a faster rate of population growth than acculturated indigenes, as the latter would face a 'steeper learning curve' in coming to terms with cultivation and herding (2010: 867). This point is questionable: not only does it presume a simple transfer of species and techniques between essentially separate communities (skilled farmers and ignorant hunters, rather than groups linked by ties of reciprocity and exchanges of personnel), it also demands that the comparative incompetence of the acculturated communities would have been maintained for generations. More seriously, the notion that numbers of radiocarbon dates can provide an index of population size becomes a dubious one where the character of the archaeological evidence itself is changing over time in fundamental ways. If one were studying hunter-gatherers whose way of life remained stable over centuries or millennia, an increase in the numbers of radiocarbon dates through time might reasonably be taken to indicate a growing number of people. But the number of dates obtained for a given period reflects not only the number of human beings who were alive at the time, but how they behaved in creating the materials that they left behind them, as well as the traditions of archaeological research through which they have been investigated. Neolithic practices are more archaeologically visible than Mesolithic ones, because they more often involved digging holes in the ground, building structures (not only monumental ones), and creating other permanent marks on the landscape. These serve as 'traps' within which organic materials suited to radiocarbon dating are preserved, in contrast to the archaeology of the Mesolithic, which is

overwhelmingly dominated by scatters of stone tools and waste. A greater number of potential samples will therefore be available relating to the Neolithic period. Consequentially, the increasing numbers of radiocarbon determinations from the start of the Neolithic in Britain might have little or no connection with population size. But beyond this, the archaeologies of the Mesolithic and Neolithic periods are pursued by largely separate research communities. These have different investigative agendas, and operate within different funding environments. The criteria for selecting which samples to date are therefore not always compatible between the two periods.

Surprisingly, Collard and colleagues applied no source-critical criteria to their dates whatever, aside from leaving out determinations that had been rejected by their parent laboratory as methodologically flawed. This is curious, given the concern with 'chronometric hygiene' that has developed within the discipline in recent years (Spriggs 1989). Stratigraphy and context were not considered, dates with very large standard deviations were included, and the 'old wood effect' on charcoal samples was not taken into account. While the authors argue that less precise dates would only blur rather than invalidate the patterns that they identify, samples of heartwood charcoal create a systematic error, making events appear earlier than they actually were. Using these materials, Collard et al. propose that there was a rapid increase in population in south-west England between 4150 and 3450 cal. bc, and in central Scotland perhaps a century later (2010: 869). Yet these results are clearly skewed by the greater density of archaeological research in Wessex (and the great many old and inaccurate dates in that region, which generate an artificially early start to the Neolithic there), and fail to register that the earliest Neolithic activity in Britain was more likely to have been concentrated in the south-east of England. Moreover, while they suggest that their results reverse the order of Sheridan's 'migrations', with an incursion from Normandy into south-west England followed by one from Brittany into Scotland, the samples which substantiate the latter are principally from the eastern lowlands, rather than the Irish Sea zone. Not only are these considerably later than Sheridan's proposed 'Achnacreebeag event', they actually relate to material that she would place within her 'Carinated Bowl Neolithic' (Sheridan 2007a), and which is thus unrelated to the hypothesized Breton presence in Argyll. The pronouncements that Collard et al. make concerning the precise date, location and rate of the inception of the British Neolithic thus need to be approached with considerable caution. Their suggestion that the southern Scottish Neolithic began independently from that in southern Britain (whether through population movement or separate networks of interaction) is an interesting one. However, it may be that the apparent 'gap' between the two putative foci simply reflects a paucity of research and dating in the northernmost counties of England. We will return to this point later in this chapter.

ASSESSING THE DATING EVIDENCE

The recent publication of *Gathering Time: Dating the Early Neolithic Enclosures of Southern Britain and Ireland* (Whittle, Healy, and Bayliss 2011) represents the

most thorough analysis of the dating evidence for the Early Neolithic in Britain and Ireland yet attempted. Although the project was focused primarily on the dating of causewayed enclosures, and thus on a relatively mature part of the period, it also addressed the inception of the Neolithic in Britain, and the processes of regional development that led up to the introduction of enclosures. Given that the volume presents 2,333 radiocarbon determinations and Bayesian models for numerous sites, it would be perverse not to make use of this material, which will provide the framework for our understanding of the earlier Neolithic for some time to come. The findings of Whittle, Healy, and Bayliss are therefore used here as a principal source of dating evidence. However, their arguments are accepted critically and cautiously. Moreover, because their study is structured around the appearance of causewayed enclosures it necessarily neglects the north and north Midlands of England, where few such structures have yet been identified. Equally, there is only a patchy discussion of Mesolithic dates. In general, then, the results of *Gathering Time* are supplemented by observations drawn from conventional radiocarbon dates, bearing in mind the reservations already discussed. To that end, I have made use of a database of uncalibrated radiocarbon dates from the interval between 6800 and 4700 bp, derived from a variety of sources (CBA Radiocarbon Index; Historic Scotland website; Oxford Radiocarbon Accelerator Unit website and numerous individual excavation reports), in order to identify some very broad regional and temporal patterns. As a rough guide to reliability, a basic distinction was made between bone and antler dates with standard deviations of less than ± 100 years, charcoal dates with standard deviations of less than ± 100 years, and other dates. Dates on human bone from caves were addressed separately, given that they could not automatically be given a Mesolithic or Neolithic attribution, and dates that were not clearly associated with human activity (environmental dates, dates from old land surfaces, etc.) were discarded.

A first trend that can be identified within this raw evidence is that the number of dates obtained for any given century throughout the Mesolithic is smaller than that for the Neolithic. There are a number of reasons that might account for this: the more minimal archaeological visibility of the Mesolithic, producing fewer closed contexts from which potential samples might be retrieved; research priorities; and perhaps also an increase in population from Mesolithic to Neolithic, although this point is highly contentious (Spikins 1996). Dates on Mesolithic material in Britain maintain relatively consistent levels over several centuries, but begin to decline somewhat after around 5400 bp. None the less, there is a thin spread of Mesolithic dates down to 4800 bp and beyond, a time roughly equivalent to the mid-fourth millennium cal. bc. Some of these late dates have been argued to represent Mesolithic 'survivals': Sands of Forvie (Warren 2003), South Haw (Chatterton 2007), and March Hill (Spikins 1999), for instance. As we have argued that for a community to adopt the Neolithic way of life they would have to abandon a series of traditions and values, it is plausible that a few would have clung to their established practices for some generations. However, it is possible that many of these dates are the product of poor samples, mixed contexts and statistical scatter. Dates on Neolithic material begin around 5500 bp, but it is very noticeable that the earliest dates all have high standard deviations. More reliable dates only begin around 5200 bp, increasing rapidly to 5000 bp, and peaking at

4900 bp. Taken at face value, these results could be interpreted as indicating a very gradual beginning to the British Neolithic, developing over a period of five or six centuries. However, the results presented by Whittle, Healy, and Bayliss reveal that the pattern is actually a combination of statistical scattering and geographical variation in the onset of the Neolithic. While within any particular region the transition from Mesolithic to Neolithic might have been relatively abrupt, the process appears to have begun in the south-east corner of England in the forty-first century cal. bc, taking over 300 years to reach Scotland, Ireland and Wales (Whittle, Healy, and Bayliss 2011: 838) (Fig. 7.1).

The chronological priority of the Neolithic in Kent and the Thames Estuary is suggested by dates from three sites: the flat-grave at Yabsley Street, Blackwall (Coles, Ford, and Taylor 2008), the large timber hall at White Horse Stone, Boxley (Booth et al. 2011), and the megalithic tomb of Coldrum (Wysocki and Whittle 2010). The Yabsley Street burial produced a single date of 4028–3990 cal. bc (48 per cent confidence), which came from the sapwood of a split oak plank apparently used torevet the side of the grave. Statistical modelling of dates from the White Horse Stone building suggests construction at the end of the forty-first century bc, while similar analysis on the dates from the first phase of deposition of human remains at Coldrum indicates activity in the latter half of the thirty-ninth century bc (Whittle, Healy, and Bayliss 2011: 379). Whittle, Healy, and Bayliss argue that this represents the earliest Neolithic presence in Britain, and that the ‘package’ of continental innovations might initially have been incomplete in this area, with mortuary monuments only emerging a century or so after the arrival of the first elements, which they attribute to a small-scale colonization. On this account, Kent remained a conduit for continental influences, with the earliest documented British causewayed enclosure at Chalk Hill, Ramsgate, likely to have been constructed between 3740 and 3690 cal. bc (at 68 per cent probability).

During the fortieth century bc Neolithic activity apparently spread to Sussex and the Cotswolds. In the former the dated evidence is initially almost entirely restricted to the flint mines of Cissbury, Harrow Hill, Black Patch, Church Hill, and Long Down. Activity at these sites is estimated to have begun in the period 4020–3855 cal. bc (at 68 per cent probability) (Whittle, Healy, and Bayliss 2011: 255). Causewayed enclosures appeared in Sussex soon after the first in Kent, probably being constructed from the start of the thirty-seventh century bc. The comparatively early Neolithic dates from the Cotswolds are less easy to reconcile with the narrative of a straightforward expansion of activity from a migratory ‘bridgehead’ on the south-east tip of England, given its landlocked position. There are traces of fortieth- or thirty-ninth century-occupation beneath the Cotswold long cairns of Hazleton and Ascott-under-Wychwood, but two notable structures have also produced early determinations here: the so-called ‘Banana barrow’ beneath the bank of the causewayed enclosure on Crickley Hill, and the Burn Ground long cairn, both in Gloucestershire. The former potentially dates to the forty-first century bc, although the animal bone that provided the samples had been redeposited in the backfill of the surrounding pits, potentially from the slighted mound itself (Dixon 1988: 78). Given the lack of diagnostically Neolithic artefacts and the presence of pre-Neolithic dwelling structures elsewhere on the site, it is conceivable that the ‘barrow’ actually represented a Mesolithic monument (Whittle, Healy, and Bayliss 2011: 446). This is clearly not the case at Burn



Fig. 7.1. Map showing date estimates for the start of Neolithic activity area by area across Britain and Ireland, at 95% probability (68% probability in brackets (from Whittle, Healy, and Bayliss 2011, with the kind permission of Alasdair Whittle and Oxbow Books)

Ground, a long mound with transepted chambers probably constructed in the later fortieth or earlier thirty-ninth century BC (see further discussion in Chapter Ten). While other Cotswold long cairns at Ascott-under-Wychwood, Hazleton, Notgrove, Sale's Lot, and West Tump are more likely to have been built between 3800 and 3600 BC (Bayliss et al. 2007: 33; Meadows, Barclay, and Bayliss 2007: 53), the evidence from Burn Ground is hard to refute, and indicates a Neolithic presence more than 200 years before causewayed enclosures developed in the region.

During the thirty-ninth century BC, Neolithic activity can be identified in southern Wessex (Dorset, Hampshire, Somerset, and south Wiltshire), and in the Upper Thames Valley. Sites that probably fit into the earlier part of this sequence in Wessex include Neolithic deposits in the Fir Tree Field shaft, and the Coneybury 'Anomaly', as well as pits at Rowden and Flagstones in Dorset, with primary activity at some of the trackways of the Somerset Levels shortly afterwards (see discussion of some of these sites later in this chapter). Earthen long barrows in Wessex were probably constructed from the early thirty-eighth century BC, with the timber mortuary structure beneath the Fussell's Lodge long mound likely to fall early in this range (Wysocki, Bayliss, and Whittle 2007: 76), and causewayed enclosures from the middle of the thirty-seventh century BC (Whittle, Healy, and Bayliss 2011: 202). In the Upper and Middle Thames, traces of the earliest Neolithic are sparse, although the timber building at Yarnton probably dates to the thirty-ninth century, while the middens at Dorney and Eton perhaps began to accumulate shortly afterwards. Pits containing sherds of Carinated Bowl at Cannon Hill near Maidenhead in Berkshire are potentially equally early, although the single radiocarbon date here is problematic (see later in this chapter).

Whittle, Healy, and Bayliss place some emphasis on the contrast between the rather slow pace at which the Neolithic became established in these southern areas and the period from around 3800 BC, during which its expansion appears to have accelerated rapidly. The thirty-eighth century probably saw the first Neolithic activity in the Middle Thames Valley below Windsor, the north Wessex downs, the East Midlands and East Anglia, and the south-west of England, as well as southern and eastern Scotland and, possibly, Ireland. In north Wiltshire, there are relatively few radiocarbon dates that relate to primary Neolithic material, although pits containing Carinated Bowl pottery at Roughridge Hill, Bishop's Cannings and sherds from beneath South Street long barrow are indicative of an early fourth millennium BC presence. Whittle, Healy, and Bayliss (2011: 102) argue that the Windmill Hill causewayed enclosure may have had the status of a 'founder monument' in the region. The enclosure appears to have been constructed in the early thirty-seventh century BC, fractionally earlier than the West Kennet long barrow, and perhaps two centuries before the Millbarrow, South Street and Easton Down long mounds. However, the thirty-eighth-/thirty-seventh-century dates from the Lambourn long barrow, only a little to the north-east, indicate the possibility that some of the long mounds of the Avebury area fall early in the local sequence (Schulting 2000: 28). In the south-western peninsula, one of the few sites that has produced Carinated Bowl pottery is the Broadsands chambered tomb, which probably dates to the earlier thirty-eighth century (Sheridan et al. 2008) (see Chapters Five and Eleven for discussion on the attribution of this pottery). However, it appears that the south-western or Hembury style of pottery, with its

hemispherical and bag-shaped lugged vessels emerged during the thirty-eighth century, and is represented at pit sites such as Portscatho, Poldowrian and Tregarrick Farm (Smith and Harris 1982: 49; Cole and Jones 2003: 133; Jones and Reed 2006). Carinated Bowl pottery is more common in the eastern counties of England, while the structure at Padholme Road, Fengate, has affinities with primary Neolithic timber buildings (Pryor 1974). However, few sites in this region have produced convincing dates earlier than 3800 BC. The exception is the long mound at West Cotton in Northamptonshire, whose thirty-ninth century BC dating Whittle, Healy, and Bayliss are at a loss to account for (2011: 302). In South Wales and the border country of the West Midlands the first documented indications of a Neolithic presence do not occur until the late thirty-eighth or early thirty-seventh century BC. Most of the long cairns of the Black Mountains and the South Wales coast (Pipton, Parc le Breos Cwm, Tŷ Isaf) appear to date to this time or later. However, a hint of an earlier presence is given by the date of 3950–3779 cal. BC (CAR-113) from a pit containing Carinated Bowl sherds beneath the long cairn of Gwernvale, Powys (Britnell and Savory 1984), although this was admittedly derived from charcoal whose character is not noted in the publication. If this date were set aside, South Wales would be a candidate for one of the parts of Britain in which funerary monuments were constructed from the outset.

On the evidence discussed so far, it seems possible that in some areas funerary monuments were an integral element of Neolithic activity from its inception, but that in others work on such structures did not begin for decades after the arrival of pottery and domesticates. Whittle, Healy, and Bayliss argue that a ‘pre-monumental’ Neolithic can be identified in Kent, Sussex, and southern Wessex, but perhaps not in the rest of Britain and Ireland (2011: 840). Some caution is appropriate here, since the numbers of adequately dated sites in each region is very small, and it would only take one very early long barrow or chambered tomb in south-east England to upturn the argument. But accepting the results at face value for the moment there are several ways in which they could be interpreted. Whittle, Healy, and Bayliss propose that the initial impetus for the Neolithization of Britain was provided by a small number of continental colonists arriving in Kent, but that indigenous people were increasingly drawn into the process as it progressed northwards. In this model, the new arrivals might have struggled to engage in monumental construction at first, but local communities might have adopted the Neolithic ‘package’ as a whole, monuments included. One could equally suggest a version of this argument that does away with the colonists, and sees the first people to adopt Neolithic innovations, in south-east England, doing so in a rather tentative and partial way. The degree of investment in a Neolithic way of life might have progressively gathered pace from then on. Alternatively, it is possible to suggest that these first British Neolithic communities did not lack monumental structures, but that these took the form of large timber buildings such as White Horse Stone, and deep-shaft flint mines.

It is hard to argue against the broad outline of Whittle, Healy, and Bayliss’ account: Neolithic beginnings in south-east England, followed by a sudden burst of expansion through the thirty-eighth century BC. However, as they acknowledge, it might be too simplistic to imagine a Neolithic frontier progressively moving across Britain, like ink being sucked up into blotting paper. The process will

undoubtedly have been more complex, irrespective of the mechanisms through which it took place. It might be that apparent anomalies such as the rather early monuments at Burn Ground and West Cotton could be understood as regionally precocious developments, whether we choose to identify Neolithic groups 'budding off' into promising areas well ahead of the advancing 'frontier', or local indigenous communities acquiring novelties and know-how by establishing medium-distance contacts. These issues become somewhat more fraught, however, when we come to consider the situation in southern and eastern Scotland. Whittle, Healy, and Bayliss calculate that the Neolithic probably began in Scotland south of the Great Glen between 3815 and 3780 BC, and in north-east Scotland between 3865 and 3780 BC (both estimates at 68 per cent probability) (2011: 808). Dates from areas immediately south of the border, such as the Milfield Basin, appear to be equally early (Miket, Edwards, and O'Brien 2008: 82). In north-east Scotland at least, earthen long barrows appear to have been constructed soon after the beginning of Neolithic activity (to judge from the evidence from Kintore in Aberdeenshire), although chambered tombs may have developed a century or so later. The large timber halls of Balbridie and Warren Field, Crathes, also in the north-east, equally seem to have been constructed relatively early in the Neolithic sequence in this area, probably dating to the thirty-eighth century BC, although the hall at Claish in Perthshire was slightly later (Marshall 2009: 79). Dates for the timber post-defined cursus monuments of the Scottish lowlands are more ambiguous (see Chapter Nine for discussion), but might fall into the thirty-eighth or thirty-seventh centuries BC (Ashmore 2007: 248–54). Altogether, these results give the impression that major architectural works were commenced sooner after the start of the Neolithic in southern and eastern Scotland than in southern England. Whittle, Healy, and Bayliss argue for a sudden expansion of the Neolithic out of southern England around 3800 BC, with the start of the Scottish Neolithic appearing no later than that in East Anglia (and earlier than that in South Wales). This picture seems to be supported to some extent by new dates from the collective round barrow burials of the Great Wold Valley of eastern Yorkshire, and particularly Wold Newton round barrow, which suggest that Neolithic burial practices began here in the period 4190–3725 cal. BC (at 95 per cent probability), and probably 3985–3775 cal. BC (at 68 per cent probability) (Gibson and Bayliss 2010: 101). These results cast some doubt on the notion that the Scottish Neolithic began separately from that in southern England (e.g. Collard et al. 2010: 869), and argue for a unified process of Neolithization on the British mainland.

COMPOUND TEMPORALITY

If anything, *Gathering Time* has exposed the inadequacy of the existing radiocarbon chronology for the British Neolithic. Even with the numerous new dates and models that the project has introduced, there are only a handful of sites with sequences of high-precision determinations within each region. None the less, one of its achievements is to bring about an overdue reconsideration of the rate of change at the start of the Neolithic. Hitherto, it has been conventional to distinguish between 'gradualist' accounts of the transition, and others which propose a

more sudden transformation (e.g. Sheridan 2007a: 442). In the past, I have attempted to distinguish between the relatively sudden *adoption* of Neolithic innovations and the more protracted processes by which they came to dominate everyday life (Thomas 1997: 60). But it seems that this approach, too, is now inadequate. It may now be pertinent to reconsider notions of *compound temporality*: the view that different aspects of human society have multiple interlocking tempos and cycles of development (e.g. Althusser and Balibar 1970: 99–100). Rather than insisting that the Mesolithic-Neolithic transition in Britain was a ‘fast’ or ‘slow’ process, it may be more fruitful to imagine a series of superimposed levels of change, progressing at different speeds. As we have noted already, there is little evidence of early fourth-millennium BC communities combining Mesolithic and Neolithic artefact-sets (microliths and pottery, say). This means that if indigenous communities were accepting new artefacts and practices, some aspects of the process must have been quite swift, and have involved deliberate and acknowledged choices. In other words, in *social and cultural* terms particular groups were not caught in a condition of being ‘half Mesolithic and half Neolithic’, even if they might actually have been using a combination of wild and domesticated resources. We have argued already that this was because the transition involved the abandonment of an integrated hunting and gathering way of life and the social mechanisms and conventions that supported it, and adopting a new set of social relationships structured through material things. Equally, the alternative view that change principally took the form of population replacement would demand that continental Neolithic groups moved into some regions relatively quickly, while Mesolithic communities in these same areas disappeared quite suddenly, whether driven out, assimilated, or succumbing to disease.

At a higher level, however, the process by which local groups or areas were transformed appears to have been played out over a period of three or more centuries, starting in south-east England and progressing northwards and westwards. So a development that may have been experienced by some people as sudden and life-changing was much more gradual when considered at the pan-regional scale. Finally, it is important to reiterate the point that the mere *appearance* of new artefacts or species does not mean that their full potential was initially exploited or even appreciated. Some artefacts might at first have been adopted as novelties, only later taking on the status of everyday goods. Acquisitions and introductions can have unintended consequences or unexpected outcomes. To complicate the picture Whittle, Healy, and Bayliss suggest that the various ‘things and practices’ that made up the primary Neolithic may not all have been adopted simultaneously in every region (Fig. 7.2). This might be rationalized in terms of the established predispositions of indigenous communities in each area, or the varying priorities of migrants. But it is also important to recognize that each of these innovations might have a different potential for unintended consequences and unacknowledged implications, which would mature at different speeds. Thus pottery might immediately transform the conditions under which food was consumed at significant gatherings, but later ‘trickle down’ to make more profound changes in everyday life; cattle might be enthusiastically adopted as a form of wealth and a source of food, but it might take some centuries for regional economies based on very large herds to develop, and so on. These various processes of maturation need not have been coordinated, and would have meshed

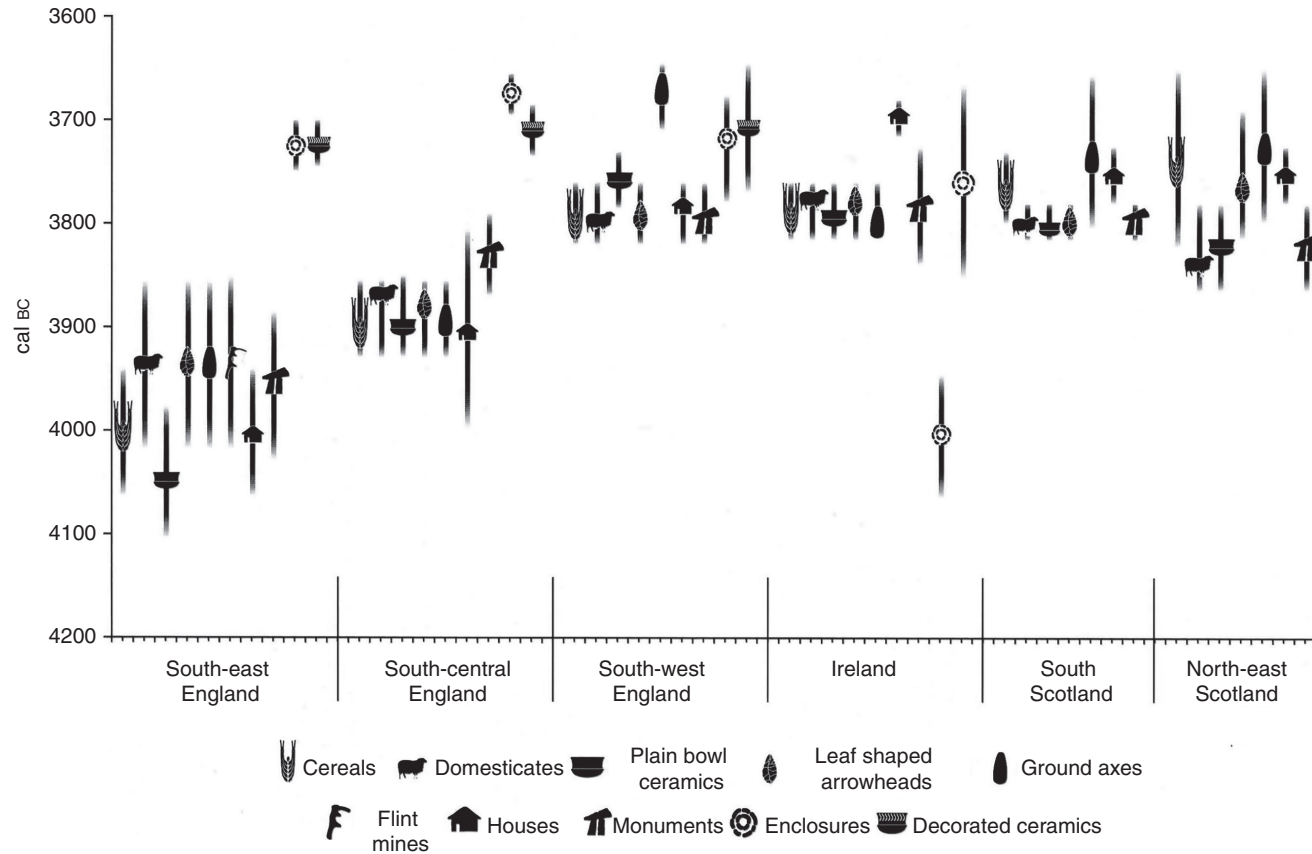


Fig. 7.2. Schematic diagram showing date estimates for the appearance of Neolithic things and practices across selected areas of Britain and Ireland (from Whittle, Healy, and Bayliss 2011, with the kind permission of Alasdair Whittle and Oxbow Books)

and clashed with each other in a variety of ways. Domesticated species can interact with the ecologies of new landscapes in ways that are barely anticipated. In this sense, the transition to a Neolithic way of life might have been at once very fast and very protracted, depending upon perspective. This may be the implication of Whittle, Healy, and Bayliss' recognition that in most parts of Britain some centuries separated the start of the Neolithic and the building of the first causewayed enclosures. Possibly, enclosures simply represented a 'fashion' that spread across the island from the thirty-eighth century BC onwards, driven by the imperative to emulate successful communities and their continental connections. But we could equally argue that new social and economic conditions were gradually generated as Neolithic novelties 'bedded down', and societies and cultural regimes took on forms that might not have been anticipated at the start of the fourth millennium BC. This is not quite the same thing as arguing that Neolithic societies had to achieve a kind of 'maturity' before they would begin to build enclosures, for this is to suggest a kind of inevitable unfolding, in which any Neolithic society will eventually reach a critical mass given time. Significantly, Whittle, Healy, and Bayliss (2011: 794) identify the start of enclosure-building in central southern and south-west England with the development of new networks of inter-regional exchange, which transported items such as gabbroic pottery from Cornwall and polished stone axes from quarries in the west of Britain. These networks presumably indicate a scalar increase in the circulation of artefacts and materials that were used in competitive exchange, and the generation of obligation and alliance between separate communities, rather than the sharing of goods amongst immediate kin. If we were to identify this kind of long-distance exchange as one of the hallmarks of the Neolithic, then there is a sense in which southern England took three or four centuries to become 'fully Neolithic'. But depending upon the criteria that we chose to employ, the process of 'Neolithization' might be judged to have been longer or shorter than this. Clearly, it was much more complex and 'messy' than we have often allowed for in the past.

PRIMARY NEOLITHIC PLACES

Although the more accurate radiocarbon dating of structures and deposits is changing our understanding of the Mesolithic-Neolithic transition in fundamental ways, dates alone provide a somewhat colourless impression of the period. Irrespective of precisely when identifiably Neolithic practices can be recognized in a given region, the more interesting question remains that of what people were actually doing. What was the character of the earliest Neolithic activity in Britain? In the remainder of this chapter we shift from times to places, and address a series of sites that fit into the interval to between 4100 and 3700 cal BC, with the aim in mind of identifying recurring themes and motifs amongst primary Neolithic practices of inhabitation. The choice of sites is constrained very much by the available evidence, but an attempt has been made to draw on material from throughout the British mainland. As far as is possible, the sites are discussed in chronological succession, but it is a measure of the remaining imprecision of dating that this sequence is still a little vague.

ASCOTT-UNDER-WYCHWOOD, OXFORDSHIRE

One of the richest assemblages of primary Neolithic material in Britain was identified in the buried soil sealed beneath the megalithic long cairn of Ascott-under-Wychwood, on a small spur in the upper Evenlode Valley of the Oxfordshire Cotswolds (Benson and Whittle 2007). This location produced evidence of occupation during both the Earlier and Later Mesolithic as well as the Neolithic, although the precise foci of activity were not consistent throughout, and the impression was of recurrent and episodic rather than continuous activity (Fig. 7.3). The Mesolithic presence was documented principally by distributions of stone tools and waste, although most of the Early Mesolithic microliths that were recovered had apparently been redeposited, and were concentrated in a large midden of primary Neolithic date (Benson and Whittle 2007: 25). Environmental evidence suggested that woodland had become denser as the Mesolithic had progressed, but that clearance and the establishment of a small area of grassland had immediately preceded the construction of the tomb. Later Mesolithic microliths were concentrated in the area of a tree-throw hole (F11), which might conceivably have represented a landmark or meeting-place, or even a feature of some symbolic significance. Later, a structure composed of a line of five posts with one offset outlier was set up in roughly the same location (Benson and Whittle 2007: 27). One of the constituent postholes of this structure produced a radiocarbon date in the last quarter of the fifth millennium cal. BC, suggesting that it may have been constructed before the arrival of formally Neolithic material at the site (Bayliss et al. 2007: 33). So while occupation at Ascott-under-Wychwood was intermittent and discontinuous, there were elements of thematic continuity across the Mesolithic-Neolithic boundary.

A second small timber structure, composed of six postholes, was built to the north of the first. Although less regular in form, this bears comparison with the six-post setting in the forecourt area at Gwernvale (see later in this chapter). In the space between the two timber settings a hearth (F48) was burned, and a pit (F7) was cut adjacent to it. The pit was later backfilled with an ashy deposit,

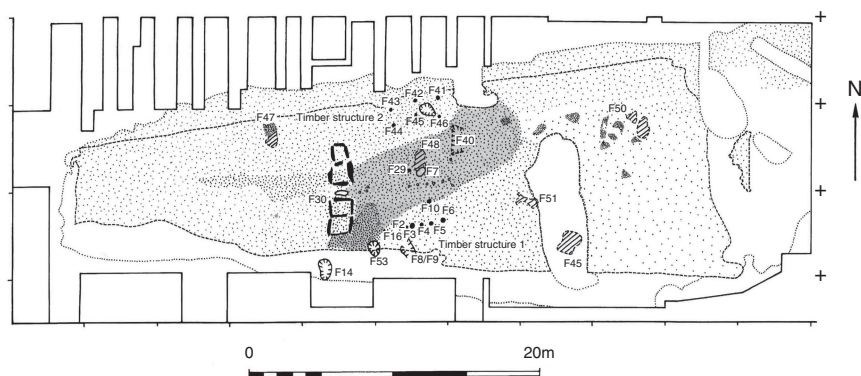


Fig. 7.3. Plan of the midden and cists at Ascott-under-Wychwood (from Benson and Whittle 2007, with the kind permission of Alasdair Whittle and Oxbow Books)

presumably derived from the hearth itself. Amongst this material were the burnt bones of a juvenile pig (perhaps the residue of a significant meal), burnt flint flakes, and unburnt sherds from at least eight pottery vessels. Evidently, burnt material in general was treated with some care at Ascott (Benson and Whittle 2007: 32). This might indicate that fire was understood as transformative, dangerous, or unstable. Flint knapping, including the production of tools, was carried out in the area immediately surrounding the two timber structures. It is hard (and perhaps pointless) to categorically identify these buildings as exclusively 'domestic' or 'ritual' in character. The southern structure might be described as a windbreak, a façade, a screen, or one side of a hut, while the northern one seems too irregular to constitute either a hut or an avenue. What might be said is that they created a durable arrangement of space, which lent a certain structure to the discontinuous activities performed in their vicinity, and that these included both prosaic and ritualized elements. As we will see, the use of architectural elements to organise human movement and action, so that they required less deliberation, is a recurring theme in the archaeology of the earliest Neolithic. People visited this location periodically, camped, tended cattle, ate, and deposited materials in sometimes rather formal ways.

Over a period of time, a midden deposit began to build up around the two timber structures, whose early layers were contiguous with the fill of pit F7 (McFadyen 2007: 23). This recalls the deposition of organic matter, hearth scrapings and cultural debris in Mesolithic structures such as Howick and Newton, discussed in Chapter Six. Although the accumulating material would have made the timber settings progressively more difficult to occupy as shelters or dwellings, it is probable that their continued presence served as a focus for deposition. As at the Mesolithic sites, the midden material represented a deliberately positioned trace of repeated human occupation, and thus a means of establishing connections between separate episodes of activity on the site. In other words, it introduced an element of structure into human experience. Later, two pairs of stone cists were cut through the midden, forming part of the long cairn. There is continuing debate over the degree to which there was an appreciable hiatus between the accumulation of the midden and the construction of the tomb, whether the stone cists stood in isolation for any period before the cairn was raised around them, and if so whether human remains began to be deposited before the construction of the cairn (Benson and Whittle 2007: 350). At the very least, it seems probable that the spatial arrangement set up by the two timber structures was reproduced in the paired cists, indicating that some of the existing significance of the place was appreciated by the builders of the tomb.

The midden itself is described as being less a single coherent entity than an amorphous space, 14 by 11 metres in extent, within which successive episodes of deposition took place. These episodes could be understood as a discontinuous process of assembly, in which selected materials were brought together. Substances that had been transformed in some way appeared to be particularly important: burnt material including hearth debris, burnt animal bone, burnt flint, and fired clay were concentrated in the densest parts of the midden. Pottery, animal bone and worked flint all gave the impression of having been drawn from assemblages which had accumulated elsewhere (although not necessarily at any great distance), having been subject to varying degrees of wear and fragmentation

prior to deposition. This was especially clear in the case of the ceramic assemblage, which formed a series of concentrations of sherds within the midden. Over forty vessels were present, predominantly plain carinated bowls and small cups, all fragmentary and apparently having been subjected to trampling before deposition (although refitting sherds were present) (Benson and Whittle 2007: 276). Whilst the vessels had a range of different fabrics, these were all potentially of relatively local manufacture, perhaps indicating that the material related to the gathering of a number of closely linked kin groups. Indeed, the presence of spalling and refiring on some of the pots suggests that some of the potting had taken place close by. Study of lipid residues on some of the pots indicated that they had been used to contain meat and dairy products, but not plant foods (Benson and Whittle 2007: 277). This evidence is supported by an assemblage of faunal remains in which cattle bones predominate. Interestingly, at this early stage in the Neolithic, isotopic analysis of these bones indicates that the cattle grazed in a woodland environment rather than open grassland.

Radiocarbon dates from the midden fall largely into the interval between 3950 and 3800 cal. BC, and the Bayesian analysis of these results indicates that the deposit probably built up over a relatively short period of time—a few decades, perhaps (Bayliss et al. 2007: 33). However, some of the roe deer bones from the midden produced unexpectedly early determinations, of around 5300–4700 cal. BC. These might easily be dismissed as residual, and they certainly have little bearing on the date of the formation of the midden. But taken alongside the numerous microliths that had been purposefully incorporated into the midden deposit it is arguable that they indicate the deliberate gathering and curation of materials of acknowledged antiquity. As we saw in Chapter Six, both human and animal remains were conserved and moved from place to place during the Mesolithic. In addition to pottery, the midden contained the majority of the leaf-shaped arrowheads recovered from the site. One way of explaining this would be suggest that as well as objects that were generations old, a deliberate effort was made to incorporate those artefacts that were most recognizably ‘new’ and novel in character, creating a hybrid deposit which embodied established traditions and recent innovations. When we consider that there is virtually no evidence in Britain of communities actually *using* ‘Mesolithic’ and ‘Neolithic’ artefacts alongside each other, this deliberate combination of the two is particularly interesting.

The emergence of middens as one of the distinctive elements of the earliest Neolithic in Britain is an intriguing development, suggesting parallels and contrasts both with the Mesolithic and with later prehistory. We have already discussed shell middens, and suggested that they represented locations at which a variety of special activities were sanctioned, as well as being simply accumulations of debris. Other, inland Mesolithic middens are known at sites such as Wawcott, Oakhanger, and Downton (Hey and Barclay 2007: 407), and it is tempting to argue that the midden at Ascott-under-Wychwood and others of its kind simply represent the introduction of new artefacts into existing indigenous practice. None the less, it is also instructive to place the primary Neolithic middens into the context of the developing debate on middening in the Later Bronze Age and Early Iron Age. In these discussions, there has been a growing recognition of the complexity of the phenomenon. In the strict sense, a midden is

a deposit that has been formed by the direct dumping of refuse in a particular location, rather than a context that simply happens to be rich in waste materials (Needham and Spence 1997: 80). Such a deposit can be created by discard associated with the everyday activities of a settlement site, but this does not exhaust the reasons why middens might develop. The distinctive large middens of later prehistoric southern Britain produce much denser concentrations of artefacts than dwelling sites of the same date, and often have a richly organic matrix including both burnt matter and animal dung (Lawson 2000: 267). In some cases, as with East Chisenbury in Wiltshire, it has been argued that the primary reason for the accumulation of debris was large-scale feasting on a repeated basis (McOmish 1996: 68). The midden thus became a growing memorial to the prodigious consumption of food, the social relationships that this engendered, and the successful agricultural production that supported it. Similarly, in the case of the broch of Dun Vulan in the Western Isles, Parker Pearson and Sharples (1999: 348) have pointed out that it is surprising that a large midden should have been allowed to build up immediately outside the site's entrance, given the potential value of the well-rotted organic matter for fertilizing the thin machair soils of the area. But they go on to suggest that the symbolic potential of the midden as a store of fertility might render it an effective means of status display. In a sense, such an accumulation represented a conspicuous form of wealth.

However, it is also important to remember that prehistoric societies need not have had the same attitudes to waste materials as modern Westerners, governed by notions of hygiene, the fear of contagion, and the worthlessness of 'broken' artefacts (Moore 1982: 77; Welbourn 1984: 22). Needham and Spence (1997: 77) introduce the notion of a 'refuse cycle', in which discarded materials may be moved from place to place, gradually becoming intermixed and losing their integrity. It is suggested that the middens of the later prehistoric periods were often composed of combinations of materials at different stages in this cycle, deposited in numerous discrete episodes (Needham and Sørensen 1998: 125). While the midden as a whole can be understood in terms of the curation of materials associated with past events (such as episodes of settlement or feasting), some specific artefacts may have been retrieved for re-use elsewhere. This might include metalwork, which could be melted down and cast into new objects, pottery sherds ground down as grog filler for new pots, and human remains whose resting in a midden may have been regarded as a temporary state of affairs. Writing of the Late Neolithic and Early Bronze Age, Ann Woodward suggests that particular pots, especially those that may have been used in significant feasts, might effectively have been stored in middens, before being retrieved and used for other purposes, such as deposition with the dead (Woodward 2002: 1041). This implies that middens should not be seen as fixed entities, but as composite assemblages that were continually in motion, in the sense that they were sporadically added to and subtracted from. Moreover, they might be connected with a series of different activities, rather than being identified as the outcome of a single practice. Craft production, agriculture and stock-keeping, mortuary practice, settlement, and feasting were all linked through midden-building.

Similar ideas have begun to be applied to middens in Neolithic Britain. Joshua Pollard (2005: 110) discusses deposits such as those at Avebury G.55 and the West Kennet Avenue in north Wiltshire in terms of deliberate strategies of

accumulation over time. If the extent of cultivation was limited and settlement was relatively transient, large quantities of waste did not require 'management', and were not critical for subsistence purposes. On this basis, Pollard suggests that the significance of Neolithic middens was primarily symbolic, gathering together materials that connoted past events and generations, and connecting them to specific locations. To this we could add that such locations might represent critical junctures in the life-histories of artefacts, places from which materials might be recovered and at which objects and substances might be transformed. During the early decades of the Neolithic it is arguable that kinds of material that had not long been available would have retained their novelty, and the gathering together of pottery sherds, polished stone tools and the bones of domesticated animals might have created a storage of both material and symbolic potential. Indeed, such materials might almost amount to 'heirlooms', which stood as durable evidence for the shared history of a particular community. Some of the materials that made up such middens were retrievable, while others were subject to decay, or had been transformed by fire. Neolithic middens therefore amalgamated materials that had diverse temporal characteristics, linking together long-term histories, the biographies of particular artefacts, and memories of specific events. While certain materials had been collected together at Mesolithic middens (particularly antler and animal bone), the primary Neolithic middens demonstrate a growing emphasis on accumulation and curation from the start of the fourth millennium BC, which contrasts with the more general Mesolithic pattern of the dispersal of cultural materials across the landscape.

These arguments clearly apply to a group of large middens in the Dorney and Eton area of the middle Thames Valley, which accumulated over a very long period but clearly originated in the earliest Neolithic (Fig. 7.4). At Dorney Areas 6 and 10, dark, charcoal-rich layers containing clusters of artefacts filled both linear hollows and tree-throw holes, and this material was apparently composed of numerous distinct depositional events (Allen, Barclay, and Lamdin-Whymark 2004: 85). The weathering and fragmentation of objects was quite varied, and although artefacts had been collected up and brought to their places of deposition, there was little that would have been out of place in an everyday occupation site (Hey and Barclay 2007: 410). However, there was distinct evidence that materials such as flint had been recovered and reworked, in a way that bears comparison with the later prehistoric sites. On the other hand, the excavators note that the practice of depositing materials in tree-throw holes shows local continuity from the Mesolithic (Allen, Barclay, and Lamdin-Whymark 2004: 91).

These considerations allow some re-evaluation of the midden at Ascott-under-Wychwood. Like those of the Later Bronze and Early Iron Ages, Neolithic middens were probably locations at which diverse activities were performed, but which represented accumulated potential, or symbolic capital, of various kinds. Unlike the later examples, Neolithic middens generally did not contain great quantities of animal dung, and while they were often charcoal-rich, their potential as fertilizer was rather more restricted. None the less, as we will see later in this chapter, it seems that the midden beneath the Hazleton long cairn was cultivated at some point (Guttman 2005: 231). In a relatively rich agricultural area and

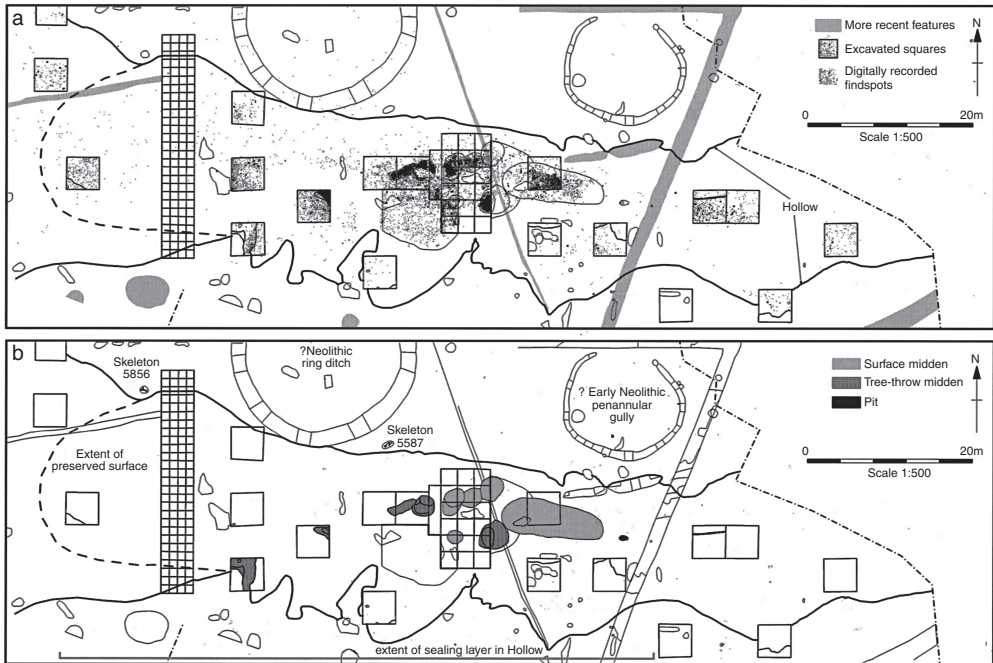


Fig. 7.4. Dorney: plan of the Area 6 hollow showing the surface and tree-throw hole middens (from Allen, Barclay, and Lamdin-Whymark, reproduced by the kind permission of the authors and the Council for British Archaeology)

without intensive cultivation technology, this may have been less a means of maximizing crop yield and more a way of producing a special food that literally sprang from the ancestral past. At Ascott-under-Wychwood, animals had been consumed but not butchered, and this might incline us toward the view that people had gathered at the site specifically for feasting activities. But just as no clear distinction between ritual and everyday action is evident at Ascott, it seems likely that a variety of forms of sporadic gathering and consumption contributed to the formation of the midden. The Ascott midden was an amalgam of the distant past and novel innovations, of animal and human, and of diverse substances and materials, which connoted the past history and future possibilities of a group of local communities. Later, its role as a concentrated accumulation of memory would be formalized and more explicitly linked with the dead, through the construction of the chambered cairn. We will discuss the character of such monuments in greater detail in Chapter Nine, but it is worth pointing out at this stage that there may have been a degree of continuity between the pre-barrow activity and the long mound at Ascott. While there may have been little evidence for any funerary activity amongst the former, the entire sequence suggests the progressive formalization of an architectural focus which served as testimony to the enduring existence of a particular group of people.

FIR TREE FIELD, DORSET

A rather different kind of evidence is provided by another of the earliest Neolithic sites in southern Britain, the massive natural shaft of possible glacial origin at Fir Tree Field on Down Farm in Cranborne Chase, Dorset (Allen and Green 1998). This shaft was between 4 and 5 metres in diameter, with irregularly vertical sides, and a wider weathering cone at the top (Fig. 7.5). Its precise depth is unknown, although auguring demonstrated that it extended beyond 25 metres (Green 2000: 41). From 10 metres below the present chalk surface upwards a series of soily layers were identified in the chalk rubble fill, all of which produced evidence of human activity in the form of flint flakes and charcoal flecks (Green and Allen 1997: 123). These appear to date from the Mesolithic onwards, and early layers included a butchered bone of red deer and the complete remains of two immature roe deer, which had presumably fallen in to the shaft accidentally. At a depth of around 3 metres, a group of seven Late Mesolithic microliths was identified, so arranged as to suggest that they might have formed elements of a single tool, such as an arrow with multiple barbs. Five of the microliths were of the diagnostically late rod form, and a radiocarbon date of 4240–4100 cal. BC (68 per cent confidence) (OxA-8011) came from a fragment of burnt hazel nearby. Slightly higher in the sequence was a hearth associated with a cattle scapula, and above this were two broken polished flint axes and an axe roughout, together with a single sherd of plain pottery and some pig bones. These last produced a radiocarbon date of 4180–3965 cal. BC (82 per cent confidence) (OxA-7981), although a date on charcoal from the hearth is a little later, if inherently less trustworthy (3945–3850 cal. BC at 46 per cent confidence).

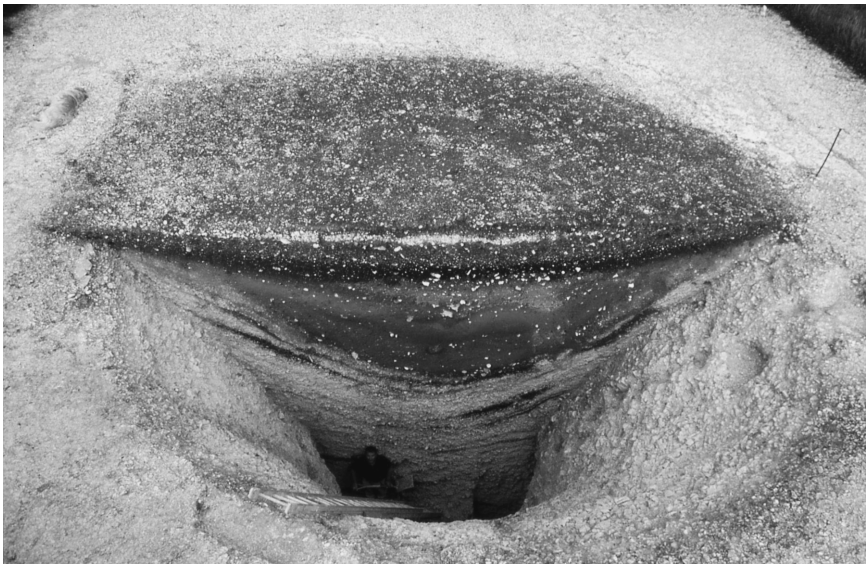


Fig. 7.5. The Down Farm shaft, Cranborne Chase (photo: Martin Green)

Taking a minimal view, the evidence from Fir Tree Field need indicate little more than that a specific location was frequented by both Mesolithic and Neolithic people, at times which might have been separated by a century or less. However, it is interesting that the deposition of the microlith group appears to have coincided with a progressive clearing of the woodland surrounding the shaft (Allen and Green 1998). The arrow might have been no more than a stray loss in the course of hunting, but the excavator prefers to see it as having been deliberately placed in the base of the gradually infilling feature (Green 2000: 28). If so, it is conceivable that the Fir Tree Field shaft sequence indicates that depositional acts in a single significant location, at the focus of an area that had been deliberately cleared to encourage the gathering of wild animals, extended unbroken across the Mesolithic-Neolithic boundary. That natural openings into the earth might represent venerated or feared phenomena during the Neolithic has often been suggested, and we have seen that they were used as locations for the deposition of human remains during the Mesolithic (Wainwright 1973; Davies and Robb 2004). That deliberate deposits in these contexts built upon Mesolithic precedent strongly implies that their general importance was maintained over time.

HAZLETON NORTH, GLOUCESTERSHIRE

The deposits revealed in the course of the excavation of the megalithic long cairn at Hazleton North in the Gloucestershire Cotswolds were strikingly similar to those at Ascott, some 30 kilometres to the east. Here again, Neolithic activity had been preceded by Mesolithic occupation, represented by scatters of flint tools and waste flakes concentrated in the areas that would later be occupied by the forecourt of the tomb and a midden similar to that at Ascott (Saville 1990: 13) (Fig. 7.6). These were of Late Mesolithic date, and seemed to represent one or more transient visits to the site by hunters who carried out repairs and maintenance on their microlithic equipment; scrapers, which might indicate the processing of hunted animals and their skins at a more permanent habitation, were less numerous. Early Neolithic activity at the site began at some time between 3900 and 3800 BC, and lasted for something of the order of a century (Meadows, Barclay, and Bayliss 2007: 61). Much of this was concentrated on a midden, 10 by 9 metres in extent, containing much charcoal and burnt soil, and numerous carbonized hazelnut shells (Macphail 1990: 224). The potsherds and animal bones within the midden were often heavily abraded, implying that they were 'secondary refuse', originally deposited elsewhere. The lithic assemblage, too, appeared to have been redeposited rather than knapped on site (Saville 1990: 154). Cattle, sheep and pig were roughly equally represented in the faunal assemblage, while the ceramics included cups, carinated bowls, and bag-shaped pots. There is little here to definitively distinguish between everyday consumption and feasting, and it may be that 'small-scale collective consumption' is the best description that we can achieve.

As at Ascott, the pre-cairn evidence at Hazleton also included the traces of a timber construction, in this case spatially distinct from the midden. The Hazleton structure was composed of a linear setting of postholes and stakeholes of varied

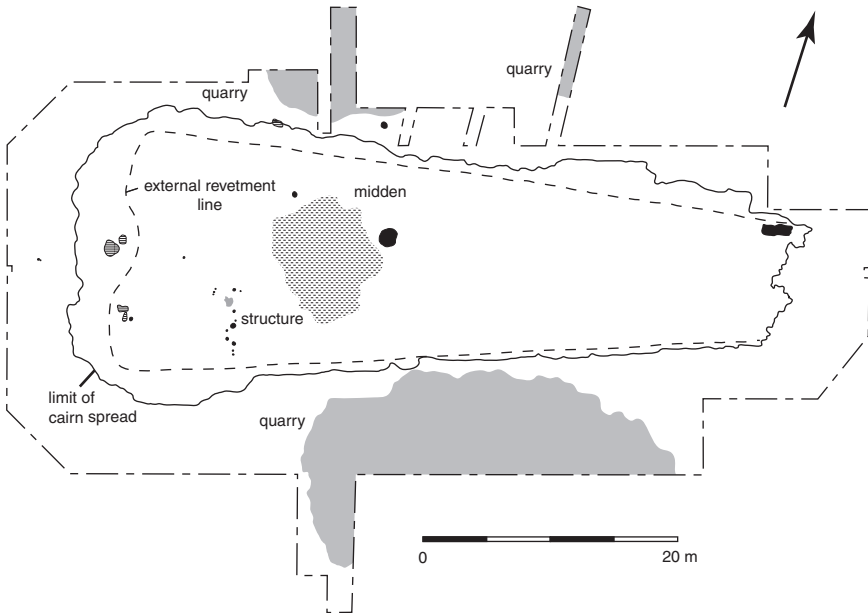


Fig. 7.6. Hazleton North long cairn: location of features below and beyond the cairn (after Saville 1990, with the kind permission of English Heritage)

sizes, only the largest of which contained packing stones. This arrangement was aligned north–south, stood to the south-west of the midden, and was itself the nucleus of a concentration of finds of bone and flint. A hearth lay immediately to the west of the post-setting, but so close as to almost intersect with its line, indicating that it might not be contemporary. It is possible to argue that the structure represented one side of a hut, the western part of which was missing, so that the hearth would originally have been located in the interior. It is perhaps more plausible to suggest that the structure was a façade or screen, and similar features have been identified in the early stages of activity at other Neolithic mortuary sites, as at Eweford West in Lothian (Lelong and MacGregor 2007: 26) (and see below). Such features might serve to divide, seclude, focus or frame the attention of onlookers witnessing significant events. As with the pre-cairn structures at Ascott, they also established a slightly more permanent architectural presence on the site, identifying it with the repeated actions of a particular group of people. In this connection, we should note that activities involving the remains of the dead clearly took place before the construction of the cairn at Hazleton. Some of the pre-cairn fragments of human bone (largely skull fragments and teeth) came from the immediate vicinity of the wooden structure (Saville 1990, fig. 20). The dating of these has indicated that they were probably 15–70 years older than the barrow (Saville 1990: 174; Meadows, Barclay, and Bayliss 2007: 59). Both the presence of joining sherds linking the two areas and the concentration of flakes from polished flint axes in both indicates that the midden and the timber structure were closely connected (Saville 1990: 20). Possibly some of the debris that was later scraped up and incorporated into the midden had originally been

deposited in the area of the façade or screen. It would seem that this material had a relatively complex history, extending beyond the point of primary discard.

As we have already noted, the area of the midden seems to have been cultivated at some point, yet the vegetation had reverted to hazel scrub before the monument was built, suggesting that this was not a sustained episode (Saville 1990: 222). A number of cereal fragments were found in pre-cairn contexts, largely wheat, and several quernstones were recovered from the midden. However, serrated flakes that might have been used for cutting plant fibres were few, and edge-gloss indicative of the use of flints as sickles was scarce. As with Ascott, the primary Neolithic occupation at Hazleton appears to have been relatively small-scale, episodic, and combined both prosaic and ceremonial elements. It also records a gradual process in which the shared identity of a particular community and their dead came to be bound up with a specific location.

CANNON HILL, BERKSHIRE

Just as the Fir Tree Field shaft appears to have attracted attention during both the Mesolithic and the earliest Neolithic, so a group of features on a low gravel hill overlooking the Thames floodplain near what is now Maidenhead in Berkshire demonstrates the same preoccupation with openings in the earth (Fig. 7.7). At Cannon Hill, three natural shafts were complemented by a pair of pits that had been dug during the earliest Neolithic period. Of these, Pit 1 (confusingly enough) was a large shaft, 3.5 metres in diameter and 4 metres deep, which contained a

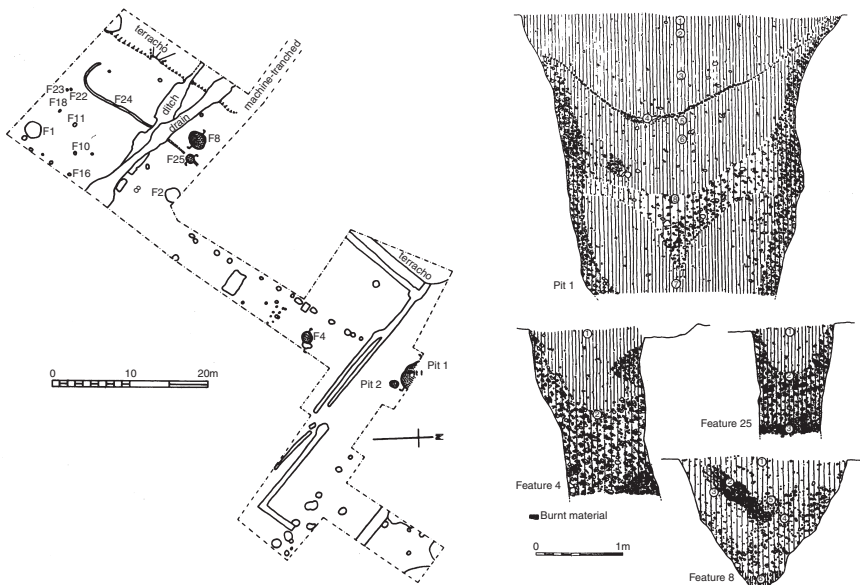


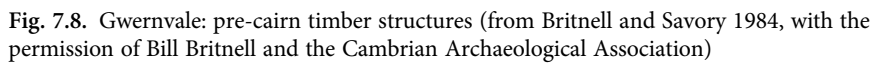
Fig. 7.7. Site plan and sections of pits at Cannon Hill, Berkshire (from Bradley et al. 1976, with the kind permission of the Berkshire Archaeological Society)

dark, charcoally lens (Layer 4) rich in artefacts (Bradley et al. 1976: 14). These included fragments of nine pottery vessels, six of them carinated bowls while three were small cups, numerous flint flakes, twenty-two flint cores, eight scrapers, and one leaf-shaped arrowhead (Bradley et al. 1976: 10). Interestingly, there were also an appreciable number of diagnostically Mesolithic flints, including blades, two microliths and a microburin. This material might simply have been residual, indicating that the area had been visited at some point by Mesolithic hunters. But its inclusion within the artefact-rich layer implies that it was integral to that deposit, either representing a rare example of Mesolithic tool types still being in use by Neolithic people, or more likely that they had been collected and deliberately deposited, as we have already seen in the case of the Ascott midden. Charcoal from the dark layer in Pit 1 provided a radiocarbon date of 4184–3983 cal. BC (HAR-1198). However, given that the charcoal was bulked rather than a single entity, this date needs to be regarded with a degree of suspicion.

GWERNVALE, POWYS

A third example of a primary Neolithic presence revealed by the excavation of a Cotswold-Severn chambered tomb, Gwernvale was located overlooking the flood-plain of the River Usk, south of the Black Mountains of south-east Wales. In a way that compares with both Ascott and Hazleton, traces of activity dating back to the Mesolithic (and indeed the Upper Palaeolithic) are present at Gwernvale, and as at the former they were concentrated on a natural feature. In the area where Chamber 1 and the forecourt of the long cairn would later be constructed, a group of sandstone boulders provided an enduring focus for successive occupations of both Mesolithic and Neolithic date, comparable with the three-throw hole at Ascott (Britnell and Savory 1984: 43). The largest boulder was a 'natural monolith' which rose 0.7 metres above the subsoil surface, possibly representing either a landmark or an object of veneration. Certain artefact types appeared to be concentrated in the area of this monolith: burins and microliths in the Mesolithic, and polished axe fragments and leaf-shaped arrowheads in the Neolithic, as well as sherds from carinated bowls (Britnell and Savory 1984: 129). The importance of the monolith was also emphasized by the presence of a great many subsoil features in its immediate area. These various slots and postholes are difficult to resolve into distinct structures, but attest to the density of repeated or sporadic activity in the vicinity of the stone.

The character of the Late Mesolithic presence at Gwernvale bears comparison with that at Hazleton, with numerous microliths and burins, and rather fewer scrapers (those that are present might be either Mesolithic or Neolithic). One burin was found in a crevice in the monolith, although it is unclear whether it had been deliberately placed there. A shallow pit or hearth on the northern side of the cairn produced a radiocarbon determination of 5878–5714 cal. BC (CAR-118), indicating that some of the dense scatter of features cut into the old land surface were probably of Mesolithic date. Two timber structures, in what would become the forecourt area and northern horn of the long cairn, were apparently Neolithic in date (Fig. 7.8). The more northerly of the two was a rectilinear trench-built



feature, 4 by 3.5 metres in extent, while the southern structure was composed of six substantial postholes. The two structures shared the same orientation, and it might be possible to argue that they formed parts of a single entity, were it not for the way that the slot arrangement was sealed by the cairn, while the postholes were probably still standing when this was constructed. Moreover, the northern structure had apparently burned down. Its southern slot contained fragments of human skull (Britnell and Savory 1984: 52). Given that the packing of the features of both timber structures contained sherds of pottery, the excavator argued that they had been built some while after the earliest Neolithic activity on site (Britnell and Savory 1984: 139). However, the recurrent evidence for the deliberate placement of this kind of material in Neolithic buildings in Britain and Ireland (Smyth 2010: 8) indicates that this need not be the case. Arguments could be made for identifying the Gwernvale buildings as dwellings (Darvill 1996: 85), and the relationship between 'house' and 'tomb' might then be compared with the timber building replaced by a court tomb at Ballyglass, Co. Mayo (O'Nuallain 1972: 54). Alternatively, it might be pertinent to point to the house-like façade at Nutbane in Hampshire, which formed one element of a suite of pre-barrow structures, burnt down before the raising of the mound (Morgan 1959: 31).

Feature 68, a large pit containing sherds of Carinated Bowl pottery, was located to the south-east of the monolith. It had been deliberately backfilled, and a fire had been burned in the resulting hollow (Britnell and Savory 1984: 55). A radiocarbon date of 3950–3779 cal. BC (CAR-113) was acquired from this context. Gwernvale had no evidence for a large midden like those at Ascott and Hazleton, but in other respects it was very similar. In each case, a chambered long cairn was built on a site where sporadic activity had been taking place over a very long time, and where timber structures whose function is not easy to identify had been set up. The presence of skull fragments at both Hazleton and Gwernvale indicates that dealings with the dead formed one aspect of what was happening at these sites, but by no means implies that they were exclusively ritual in character.

BIGGAR COMMON, SOUTH LANARKSHIRE

One of the earliest Neolithic sites in the Scottish lowlands presents an interesting parallel with the southern British sites that we have just discussed. At Biggar Common, Cairn 2 was one of a number of tumuli concentrated in an area that had produced substantial quantities of Neolithic flintwork and pottery in fieldwalking. This included numerous sherds of Carinated Bowl, suggesting a relatively early date (Johnston 1997: 186–7). The 20 metre long mound had been preceded by three distinct phases of activity, the earliest of which took the form of a sub-rectangular stake-built structure (Fig. 7.9). This had apparently burnt down, and charcoal from the stakes produced dates of 5490–4908 cal. BC (GU-2987) and 5220–4847 cal. BC (GU-2988); seemingly Mesolithic rather than Neolithic. The burnt stakes were covered by a soil deposit 20 centimetres thick, on the surface of which were a series of burnt deposits, apparently representing hearths or bonfires. Amongst this material, sherds of Carinated Bowl pottery were found, some of them burnt, together with flakes of flint and chert. A very small number of cereal

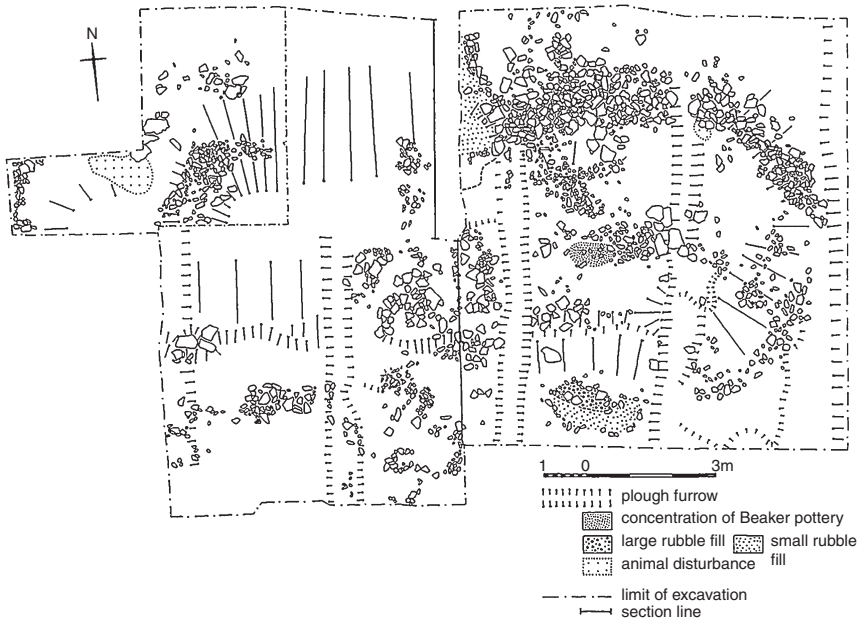


Fig. 7.9. Biggar Common, plan of Cairn 2 (after Johnston 1997, with the kind permission of the Society of Antiquaries of Scotland)

grains were also recovered, together with hundreds of carbonized hazelnut shells. Two radiocarbon dates were taken from the burnt deposits: 4219–3790 cal. BC (GU-2986) and 4234–3980 cal. BC (GU-2985). These charcoal dates might easily be too old for the activity represented. As at Hazleton, there are hints that the soil layer beneath the burnt deposits may have been cultivated, but this contrasts oddly with the minimal presence of cereals. The excavator suggests that the hearths or bonfires may have been used for cooking, and while soil conditions would not have allowed for the preservation of animal bone, the density of pottery finds could support the view that the place had been a site of repeated occupation, or of feasting. The duration between the burning of the hearths and the construction of the mound is unclear: two graves inserted into the barrow were of middle Neolithic and Beaker dates respectively.

EWEFORD WEST, EAST LoTHIAN

If the nature of the activity at Biggar Common is frustratingly opaque, rather more can be said of another southern Scottish site, Eweford West in East Lothian. This was yet another location where a long mound was eventually constructed, and where this outcome seems to have been prefigured by a series of earlier developments, which stretched back into the Mesolithic. Topographically the site was distinctive as the end of a natural glacial bank, where occupation including the manufacture and use of flint and chert tools had taken place in the Mesolithic

(Lelong and Macgregor 2007: 17). The earliest Neolithic activity on the site involved the raising of a low earthen mound, 15 metres in diameter. This may have been capped with turf. A deep pit was then cut through the centre of the mound, and into the subsoil below. This was soon backfilled with gravel, and capped by a cairn of stones, many of which had apparently been burned (Lelong and Macgregor 2007: 19). Fragments of animal bone were found amongst these stones, and a cattle radius produced a date of 3960–3780 cal. BC (SUERC-5280). Possibly the stones had formed part of the fabric of a hearth, or had been part of some kind of construction—although it is also conceivable that the pit had originally held some form of upright, such as a large post, and that the burning was connected with its removal.

About 30 metres to the south-west of the mound, a large sub-rectangular pit had been dug. A date of 3960–3710 cal. BC (SUERC-5298) from alder charcoal at the base of the pit indicates that it was broadly contemporary with the mound complex, and the excavators speculate that both might have been contained within a single woodland clearing. This charcoal formed part of a deposit that had been tipped into the pit in the course of its backfilling, and which also included numerous sherds from seven pottery vessels (including five carinated bowls), and one retouched flint flake. In a way that recalls the midden deposits that we have discussed, the pots had all been broken before deposition, and only a proportion of each vessel had been included. At a later point, more material had been thrown into the pit, including further fragments of some of the same pots, suggesting that they had been curated nearby in the interim (Lelong and MacGregor 2007: 20). By implication, the artefacts and burnt deposits in the pit could have been drawn from some context that is no longer archaeologically accessible, such as a surface midden.

Shortly after the digging of the pit and construction of the cairn, the mound was covered with a capping of earth and turves, enlarging it to a diameter of 20 metres. Scattered across this new mound were numerous sherds of Carinated Bowl pottery. A series of timber and stone structures were now set up on the surface of the resulting raised area, and these were all associated with human remains. Two of these were linear structures, morphologically similar to the wooden mortuary chambers which constitute the primary elements of long barrows and cairns elsewhere in Britain. Structure 1, to the north, was defined by a three-sided slot, which had held oak planks revetted in place with large stones (Lelong and MacGregor 2007: 21). The timbers had been burnt in situ, and the partial remains of two human bodies (one adult and one juvenile) has also been affected by fire. The incompleteness of the skeletons suggests that if they had been placed in the chamber in a fleshed condition, some of the bones might subsequently have been removed, and indeed that more bodies might have been present at some point. The second structure, on the southern side of the mound, was composed of a line of three large postholes, the two northernmost of which bracketed a pair of plank slots, creating an enclosed compartment of similar size to Structure 1. Structure 2 had also been burnt down, and contained the scorched remains of two adults (one of whom had been in a disarticulated condition) and a neonate. One of three stakeholes that were apparently closely connected with Structure 2 produced a radiocarbon date on hazel charcoal of 3960–3770 cal. BC (SUERC-5290), which

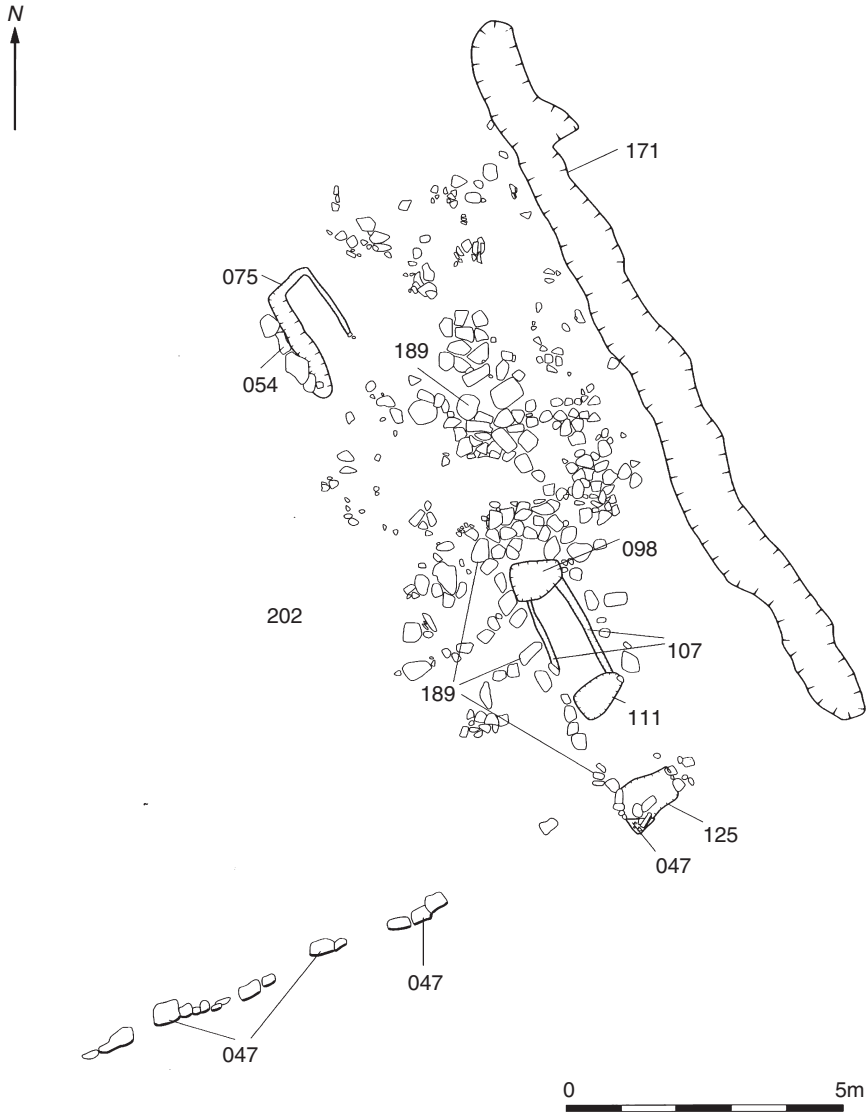


Fig. 7.10. Eweford West, East Lothian: layout of chamber structures (from Lelong and MacGregor 2008, with the kind permission of Gavin MacGregor and the Society of Antiquaries of Scotland)

suggests that the interval between the first and second phases of construction of the mound cannot have been very great.

The relationship between the two timber chambers, set on opposite sides of the mound, is very similar to that between the two sets of stone cists at Ascott-under-Wychwood (Fig. 7.10). Indeed, the pairs of cists at Ascott bear comparison with Structure 2 at Eweford, where two distinct spaces had been created. Such

paired spaces might allow the differentiation of different classes of deceased persons, or might enable body parts to be moved from one area to another as the corpse decayed, drawing attention to the progressive decomposition of the body (Thomas 2000a: 609). At both sites there is a strong sense that the spatial arrangement of an increasingly 'monumental' mortuary facility was formalized over a period of time. At Ascott, the cists may originally have stood within the midden before the cairn was built around them, while at Eweford West the timber chambers were surrounded by an amorphous scatter of stones on the top of the mound, before a deep façade trench was cut to the east of them, effectively establishing a distinct forecourt area. The screen or façade was later burnt down, and charcoal from one of a series of supporting timbers produced a date of 3890–3650 cal. BC (SUERC-5289), perhaps some while later than the construction of the chambers. Later again, the mortuary area would be flanked by a pair of quarry ditches, and the whole structure capped by a trapezoid stone cairn (Lelong and MacGregor 2007: 25). What perhaps distinguishes Eweford West from some of the sites in southern Britain that we have already described is both that it had taken on a form which can only be described as a 'funerary structure' at a comparatively early date, and that even before this it is difficult to identify any unambiguously domestic activity at the site. While the first mound could barely be described as 'monumental', it was not really 'functional' or quotidian either.

THE CONEYBURY 'ANOMALY', WILTSHIRE

The Coneybury 'Anomaly', so named as it was revealed as an unexpected feature on a geophysical survey of the henge monument on Coneybury Hill in south Wiltshire, has attracted much attention as one of the earliest Neolithic features in the immediate landscape of Stonehenge. The feature was a large pit, 2 metres in diameter and originally 2 metres deep (Fig. 7.11). Its basal fill was a deposit of fine, dark soil containing much charcoal and organic matter. This layer was only 20 centimetres thick, but it had evidently been much compressed by subsequent deposits (Richards 1990: 40). While the colluvial material filling the upper part of the pit was virtually sterile, the black organic layer was densely packed with animal bones, pottery sherds and flints, many of them giving the impression of having been deliberately placed. One fragment of bone produced a date of 3958–3715 cal. BC (OxA-1402), and while this was not articulated and might therefore have been residual, the material assemblage as a whole is likely to have represented a single episode of deposition (Cleal 2004: 186). The very large faunal assemblage from Coneybury is particularly significant, as it presents less equivocal evidence for feasting than some of the sites already mentioned. The pit contained the partial remains of ten cattle, several roe deer, one pig and two red deer. Many of the animals were young, and this indicates an episode of slaughter and butchery in the summer months. While the roe deer appear to have been eaten on site, the principal meat-bearing bones of the cattle and red deer were missing, indicating that they had been butchered nearby but that their flesh had been removed for consumption elsewhere. Fine butchery marks were present on the surface of many of the bones (Richards 1990: 87). The preparation of such a large quantity of meat

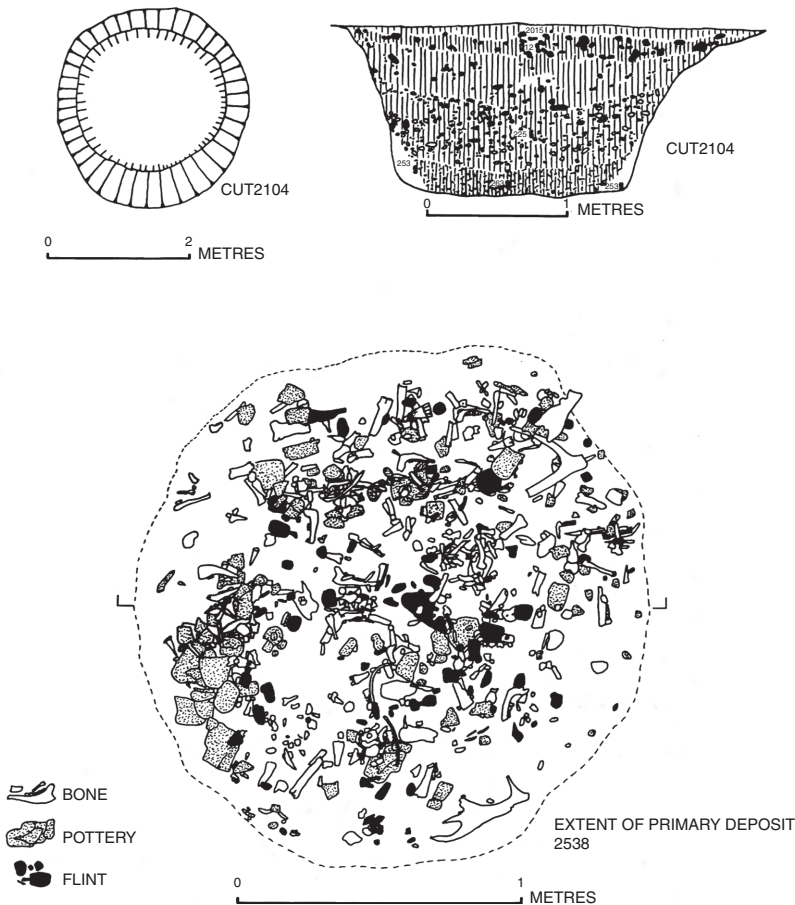


Fig. 7.11. The Coneybury 'Anomaly' (redrawn by Matt Leivers, after Richards 1990)

at one time is strongly suggestive of an important social gathering. None the less, some of the cattle bones had apparently been gnawed by dogs, and this may be an indication that burial was not immediate.

The ceramic assemblage from Coneybury was also substantial, composed of 1,744 sherds which weighed 16 kilograms, most of which came from the dark basal layer (Richards 1990: 51). Many sherds had been placed with their curved surfaces nested together, and this was one of the principal indicators that the deposit as a whole had been carefully arranged, rather than thrown into the pit in disarray. The pottery represents at least forty-one vessels, with a rather wider range of forms than at any of the other sites that we have considered so far. Although the heavy rims that are characteristic of the period after the thirty-seventh century BC were not present, the carinated bowls were complemented by simple neutral and open bowls. As a whole, the assemblage was better suited to consumption than storage, and while much of it was buried in a relatively fresh condition there are hints in the presence of a mending hole and a worn lug of a

degree of curation (Cleal 2004: 172). As only parts of each vessel were present at Coneybury it is probable that they were selected from a larger assemblage, whether a midden or the presumed feasting site to which the meat of the cattle and deer was taken.

The worked stone from Coneybury also gave an impression of incompleteness. Few cores were present, and relatively few of the very numerous blades and flakes refitted with one another, although all stages in the lithic reduction process were represented. This again argues that the material was derived from a larger assemblage, whether at an activity area elsewhere or a midden. A small number of flakes were present in the upper layers of the pit, presumably washed in from its immediate surroundings. This might be an indication of the former presence of a midden nearby. Tools in the primary deposit included scrapers, some of which were burnt, two arrowheads, and a flint axe (Richards 1990: 45). Although the matrix of the cultural deposit was rich in charcoal, carbonized plant remains were not numerous. A few burnt cereal grains were present, but few hazelnut shells, apparently because the Coneybury pit had been dug in a location remote from any flowering hazel (Richards 1990: 250). Overall, the overwhelming impression provided by the content of the Coneybury Anomaly is one of a fragment of a set of activities that extended to other places in the landscape. It may be that the material that entered the pit had been drawn from a midden nearby, but meat from animals butchered at Coneybury had clearly been taken away for consumption elsewhere, while both lithics and ceramics suggest a temporary presence rather than a year-round settlement. Coneybury represents a snapshot of a network of human activity dispersed across a landscape.

THE SWEET TRACK, SOMERSET

If the pits, middens and find spreads that represent the majority of primary Neolithic sites in Britain present a somewhat ambiguous picture of everyday life during the period, an entirely different impression is offered by the Sweet Track, a raised timber pathway extending across the reed and sedge marshes of Shapwick Heath, between the Polden Hills and the Meare-Westhay island in eastern Somerset. Although the track was 1800 metres long, it has been estimated that it could have been constructed by as few as ten people in less than five days (Hillam et al. 1990: 216). The Sweet Track is the earliest of a number of prehistoric trackways that have been discovered in the Somerset Levels, and yet it is more elaborate than any of the later examples, demonstrating considerable mastery of woodworking technology. The track was exceptionally straight, and was composed of longitudinal rails on the surface of the marsh, with paired cross-pegs which held a single plank walkway supported by peat packing (Coles and Orme 1976: 35). The planks were largely made from oak, but ash, alder, elm, lime, and other woods were used for the other components (Fig. 7.12). At intervals along its length the Sweet Track intersected with an earlier and more fragmentary structure, referred to as the Post Track. This cruder construction was composed of heavy planks of lime and ash, many of which were eventually cannibalized and incorporated into the Sweet Track itself. It is argued that the Post Track may have been a temporary working

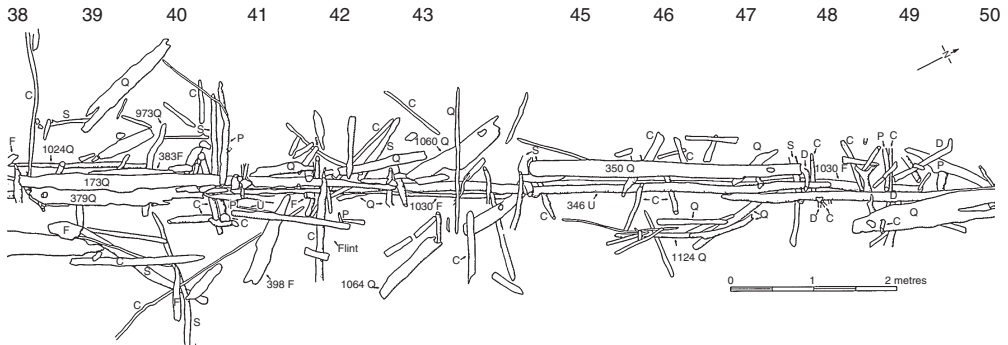


Fig. 7.12. Plan of the Sweet Track at the Turbary Site, excavated by the Somerset Levels Project in 1981 and originally published in Coles and Orme 1984 (from Coles and Coles 1986, with the kind permission of Bryony Coles © Somerset Levels Project)

platform, from which the Sweet Track was built, initially working outwards from the northern end at Westhay (Coles and Orme 1984: 13).

Dendrochronological work has demonstrated that the wood used for the Sweet Track was felled in 3807–3806 BC, while the Post Track timbers were cut in 3838 BC, but may have lain for some while before their use. There are strong indications from pollen analysis that the forests at either end of the track had already been disturbed decades before the track was built. Concentrations of stone tools and waste also indicate relatively intensive use of the slopes of the Polden Hills during both Mesolithic and Early Neolithic (Bond 2011: 102). At the northern end of the track, mature oaks over 400 years old were used for the planking, but in the south, where clearance seems to have been more intense, the trees used were much younger (Hillam et al. 1990: 216; Whittle 2007a: 379). At the Turbary site, the wettest portion of the trackway towards its northern end, repairs seem to have been carried out in 3804 and 3800 BC, with the addition of ash planks, but soon afterwards the level of the marsh rose, covering and preserving the structure. The Sweet Track was therefore probably only used for a decade, and indeed the rise of marsh water in the winter would have covered the walkway, so that it was only ever in seasonal use. Coppiced hazel was used in the construction of the track, and alongside the evidence for forest clearance this is taken as evidence that the structure was a manifestation of a mature Neolithic way of life. However, neither the management of hazel nor the thinning of forest cover are in themselves diagnostic of the shift from the Mesolithic, and it is unclear for how long pottery, polished stone tools, and domesticated plants and animals had been present in south-west England before the Sweet Track was built.

In the deeper parts of the marsh that the trackway passed through there were damp conditions and even open water nearby, to judge from pollen and plant remains of sedge, rush, reed, and water-lily (Caseldine 1984: 70; Coles and Coles 1986: 48). Early publications suggested that the track had enabled people dwelling in a cleared and cultivated area around the Polden Hills to gain access to a complementary zone in which fish, wildfowl, game animals, and wild plants could have been acquired (Coles and Orme 1976: 65). This may have been part

of the reason for the building the structure, but one very significant piece of evidence is the ubiquitous presence of dung beetles and other coleoptera commonly associated with animal dung at track level (Girling 1984: 87). These would seem to indicate the presence of large numbers of domestic animals, presumably cattle, on the wet ground on either side of the track. Although species such as plantain and ringwort attest to disruption of the natural vegetation in the vicinity of the track, there is very little evidence for cereals being either grown or used anywhere near the Sweet Track. Possibly, then, one of the principal reasons for the construction of the Sweet Track was to allow dry passage for herders driving cattle through the wet country between seasonal pastures. In any case, what is distinctive about the track is the way that it defined and formalized a particular pattern of movement, giving structure to subsequent human action. While in the Mesolithic pathways had gradually grown up through habitual movements, here a material intervention dictated the character of future journeys. This is a further instance of the way that material things increasingly provided cues and supports to sustain social life from the start of the Neolithic, insuring the repetition and continuity of particular patterns of activity. In this way, the Sweet Track is comparable with the timber screens that we have seen beneath the long mounds of Ascott and Hazleton: all are material forms that establish the conditions for particular kinds of action.

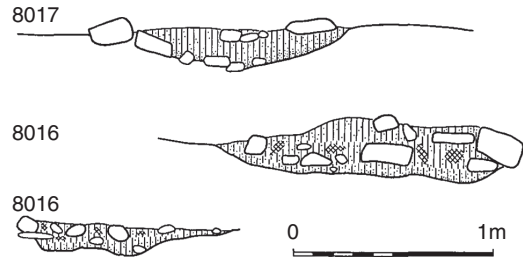
Coles and Orme (1979: 61) point out that one of the significant contrasts between the Sweet Track and its successors was that the density of finds on and around the structure was much greater than at any of the later sites. Somewhere between ten and fifteen pottery vessels have been found in association with the track, either hidden beneath planks or seemingly smashed beside the walkway (Hillam et al. 1990: 218). Some, like the large vessel from the Drove Site or the Site C pot were virtually complete, while others were more fragmentary (Coles and Orme 1984: 43). However, sherds of a single vessel were sometimes found as far as 60 metres apart, and this perhaps indicates the effect of post-depositional processes, so that initially clustered groups of sherds might easily have been dispersed by water action. The pottery appears to have been concentrated in distinct areas along the track's extent: thus there were numerous vessels at the Railway Site, but none at all at the Factory Site. All of the pots were fine, thin-walled carinated or shouldered vessels, coated with a black substance, and burnished over their upper surfaces. Several different fabrics were represented, including pots with crushed quartz, flint, and calcareous inclusions. The Sweet Track ceramics are distinctive in having a very restricted range of vessel forms and rather fine fabrics (Cleal 2004: 170). This may simply be a reflection of their relatively early date, but it also hints that they were not chance losses and breakages, drawn from an all-purpose domestic repertoire. It is more plausible that they were deliberately placed, particularly fine vessels of a distinctive kind. It is worth remembering that pots placed in bogs were one of the characteristic elements of the earliest Neolithic in Scandinavia (Koch 1998: 132), that wet places had been used for acts of deposition in the Mesolithic, and that they continued to be an appropriate depositional context for pottery throughout the British Neolithic (Thomas 1999: 85). This is not to suggest that the Sweet Track was a 'ritual structure' in any sense, although its position at the interface between dry and wet country may have made it appropriate for deposition, and may even have required it (Bond 2004: 47).

Other artefacts recovered from the vicinity of the Sweet Track also give the impression of having been deliberately placed. For instance, the jadeitite axe found at the Railway Site, roughly halfway along the track, had been hidden under a wooden board. It was unhafted and had probably never been used, and it remains the only unbroken jadeitite axe from a closed archaeological context in Britain (Coles et al. 1974: 218). Similarly, the flint axe from the Drove Site, about 1 kilometre further south, was an unhafted and very fine artefact (Coles and Coles 1986: 59). Also at the Drove Site, a wooden axe or 'tomahawk' was found hidden beneath a board, amongst a pile of wood pieces beside the track (Coles and Orme 1979: 49). Although the excavators conjecture that this may have been a child's toy, it may be pertinent to compare the wooden axe with the chalk axes found at other Neolithic sites in southern Britain (Cunnington 1929: 112). In other words, the object may have been an effigy, intended for depositional purposes, and conceivably representative of either axes in general, or a specific axe whose presence was invoked in the act of deposition. Four bows and five arrowheads (two of them attached to hazel shafts), all found toward the southern end of the track, may also have been deliberately placed (Coles and Coles 1986: 61). Yet the appreciable numbers of flint flakes found in the vicinity of the trackway, bearing usewear traces of woodworking or reed cutting, may have been more casually discarded (Coles and Coles 1986: 57). None the less, the lithic assemblage from the immediate area of the track is predominantly of chalk flint, and one nodular core seems to have come from a beach on the south coast of England (Bond 2004: 46). While the Sweet Track suggests that spiritual or symbolic concerns were tightly embedded in the practices of everyday life, objects of rather special quality appear to have been used and deposited in its immediate area.

BALFARG, FIFE

Like Coneybury, Balfarg in the Scottish lowlands was a site at which relatively ephemeral activities took place during the primary Neolithic, but where a large monument would come to be constructed hundreds of years later. The Balfarg-Balbirnie complex would eventually be composed of two henge monuments and a stone circle, and as at a number of other sites, it is possible that the social memory of a 'foundational' Neolithic presence influenced their location (Barclay and Russell-White 1993: 90; Thomas 2000b: 80). By implication, the memorability of acts carried out in the earliest part of the Neolithic was not directly related to the scale and complexity of their physical traces. Balfarg lies between the Leven and Eden rivers, immediately to the north of Glenrothes. In Area C, located to the south of the Balfarg Riding School henge enclosure, a group of seven pits was identified, two of which contained sherds of Carinated Bowl pottery. These pits were each around 1 metre in diameter and 30 centimetres deep. Each had a group of large, closely-packed stones in the top of its fill, presumably a means by which the pits were marked, so that their presence could still be appreciated for some while after their backfilling. Four of the pits contained charcoally fills or burnt bone fragments.

Fig. 7.13. Balfarg: sections of F1806 and F8017 in Area C (from Barclay and Russell-White 1993, with the kind permission of the Society of Antiquaries of Scotland)



In one of the pits, F8016, sherds from three pottery vessels had apparently been placed quite carefully (Fig. 7.13). All of these pots were fragmentary, although one (P1) was more complete than the others. Fewer sherds were present in pit F8017, and as parts of some of the same vessels appear to have been represented here it is possible that their introduction into the pit was less deliberate than the deposit in F8016. Fragments of seven further carinated bowls were recovered from the general area of the pits, including the henge ditch. As at Coneybury, this may be an indication that the artefacts in the pits had been drawn from a surface deposit such as a midden. Generally, the primary Neolithic pits at Balfarg suggest small-scale activity, which may have been recurrent over a period of some years if the seven pits were dug during successive visits to the site (Barclay and Russell-White 1993: 69). This much is suggested by the clusters of stones in the tops of the pits, which would have enabled the precise location of the site to be rediscovered after a period of absence. Charcoal from pit F8016 provided three radiocarbon dates: 3638–3389 cal BC (GU-1903), 4220–3802 cal BC (GU-2604), and 3794–3652 cal BC (GU-2605). These are not mutually compatible, and the simplest explanation is that the material used for GU-2604 was residual, so that a date in the thirty-seventh century BC is to be preferred.

THE PICT'S KNOWE, DUMFRIES AND GALLOWAY

The Pict's Knowe is a low sandy knoll that breaks the surface of the peat in the bottom of the Crookes Pow Valley, immediately to the south of Dumfries in south-west Scotland. During the post-glacial the valley was subject to alternating phases of inundation and drying, caused by eustatic sea-level rise and isostatic rebound (Thomas 2007b: 26). As a result, a series of distinct layers of peat cloak the valley bottom, one of which runs beneath the bank of a small henge monument (dated to the Early Bronze Age) set on the sand island, while further peats form the upper fills of its surrounding ditch. Pollen analysis demonstrated that the woodland on the flanks of the valley was extensively disrupted during the Later Mesolithic, while there was an increase in microscopic charcoal in sediments dated to the period after 4550 BC, probably indicating anthropogenic burning. Subsequently, there was a gradual drying of peat surfaces, with some of the sphagnum bog being replaced by sedge and grass. Oak trees were swiftly removed from the valley sides, and elms more gradually, presumably as domestic animals



Fig. 7.14. The Pict's Knowe, Dumfries: primary Neolithic features predating the henge under excavation (photo: author)

began to be grazed in the area from the start of the Neolithic. However, a damp alder carr persisted in the valley bottom (Thomas 2007b: 31).

Sealed by the peat beneath the henge bank, on the southern side of the sand island were two large pits (features 6121 and 6430) and several postholes (Fig. 7.14). These pits did not possess sharp edges on all sides, and it is possible that they were actually tree-throw holes. They contained scattered small sherds from two plain carinated pots, which were also spread across the old land surface in the surrounding area. Numerous small flakes of chert were distributed over the same space. A little apart from this concentration, in the area that would later be occupied by the southern part of the henge bank, was a smaller isolated pit (feature 6724). In contrast with the sparse sherds and lithics in the two larger features, 6724 was crammed with artefacts, including fourteen sherds from eight different vessels. All three pits produced radiocarbon dates in the interval 3760–3630 cal. BC (Thomas 2007b: 32). Further to the north and east, in the area that would later become the entrance to the henge monument, a small oval mound was discovered, flanked by a pair of large postholes (Fig. 7.15). The posts had been withdrawn from these settings, and the holes hidden beneath piles of sand. The mound covered a large pit, which contained no objects, although it would have been an appropriate size for a human burial, the bones of which would not have survived in the acidic soil conditions. The date of these features is unknown, although lying beneath the pre-bank peat they were stratigraphically equivalent with the primary Neolithic pits.

Like the Sweet Track, the Pict's Knowe demonstrates sporadic, perhaps seasonal incursions into wet lowlands by human communities in the first centuries of the Neolithic. The artefactual assemblage from the site is quite meagre: a small



Fig. 7.15. The Pict's Knowe, Dumfries: the small mound beneath the henge entrance, stratigraphically equivalent to the features containing Carinated Bowl pottery (photo: author)

number of pottery vessels and an assemblage of chert and pitchstone that had been carefully curated and reworked (Thomas 2007b: 144). The primary stages in the lithic reduction sequence had apparently taken place elsewhere, while the pitchstone demonstrated at least indirect contact with the Isle of Arran. A relatively mobile group had occasionally visited the Crookes Pow Valley, whether to pasture cattle on the valley flanks or to acquire wild foods and materials from the damp lowland. The traces at the Pict's Knowe are again a fragment of a pattern of activity that extended across a wider landscape, but as at

other sites that we have investigated the indications of retooling and informal shelters are found alongside formal deposition, and perhaps burial.

DISCUSSION

Although the traces of the earliest stages of the British Neolithic seem baffling and fragmentary when compared with the more substantial monumental archaeology of the mid-fourth millennium BC, a series of themes appear to emerge from this consideration of sites that represent early stages within their respective regional Neolithic sequences. The first of these is the combination of continuity (or at least recurrence) and discontinuity. Most of the sites that we have discussed have evidence for both Mesolithic and Neolithic occupation, although in no case is there any indication of continuous activity across the boundary between the two periods. This is principally because at all of these sites inhabitation took a form that was discontinuous and episodic. We should perhaps not expect to see communities caught in the process of transformation where occupation was not constant over a lengthy period. As we noted in Chapter Five, many of these sites do not conform with Sheridan's claim that episodes of Mesolithic and Neolithic activity in a given place are generally 'separated by well over a millennium' (2010b: 90). Where the two took place within a period of decades, or a century or two, a number of possible explanations could be offered. Pure coincidence seems unlikely, but it could be argued that Mesolithic and Neolithic communities both sought out favourable locations within the landscape, or that Neolithic groups simply re-occupied places that had been cleared of the densest vegetation decades earlier. But in some cases it is hard not to conclude that particular places had a significance that was maintained in social memory across the transition, as with the Fir Tree Field shaft or the Gwernvale monolith.

As Lesley McFadyen has maintained (2008a: 130), the occupation sites of the primary Neolithic are distinguished by discontinuity and partialness: gaps when people were absent from sites, and artefactual assemblages that appear incomplete. This, undoubtedly, reflects relatively mobile ways of life, in which patterns of activity were dispersed across landscapes, rather than embedded in fixed places over many generations. Yet at the same time, there seems to have been a curious insistence on the curation and accumulation of material things, which arguably contrasts with an emphasis on dispersal during the Mesolithic (e.g. Conneller 2006: 159). This extended not only to the gathering of potsherds, flint flakes and the bones of domesticated animals in middens and pits, but also to the collection of already ancient objects at Ascott-under-Wychwood and Cannon Hill. It is tempting to link this concern with the accumulation of things and their fixing in specific locations with the decline of sharing. Where in the Mesolithic things had become dispersed, and social ties had been looser, there was now a growing preoccupation with the consolidation and gathering together of wealth or 'capital', in the sense of material that possessed potential for future use. Objects and substances were now being more carefully managed and husbanded, with the result that they began to develop increasingly complex life-histories, even after they had ceased to be 'useful', in a modern sense. Objects that had been broken elsewhere

were gathered up and deposited in middens, while objects taken from middens were in turn deposited in pits. Arguably, the distinction between the two types of contexts lay in the status of middens as accessible stores of potential for future action as well as past memories, while pits took materials out of circulation, fixing them in a particular location in a memorable fashion. Both represented ways in which material and symbolic capital could be manipulated. Sherds, bones or flint cores might later be retrieved from middens for further use, and this enhanced the status of the midden as somewhere to return to, and hence as a memorable place. As such, both middens and pits connected with a transient way of life, but one that was quite distinct from hunting and gathering. Furthermore, both middens and pits represented durable evidence of human habitation, which might have an influence on the way in which particular locations were subsequently understood and used. Material things were increasingly serving both as the physical manifestation of the histories of human groups, and as a means of structuring, inspiring, and constraining future action. This is seen in the way that the Sweet Track promoted a specific pattern of movement into the wetlands of Somerset, for instance. But it is also evident in the increasing use of architecture to give form to practice, including deposition, and the growing formality and coherence of activity on sites associated with the treatment of the dead. In a series of different ways, then, crafted objects and constructed spaces were starting to intercede in social life, in ways that organized social interaction. People could increasingly rely on artefacts and buildings to give them cues for their habitual activities, so that material things took on a much more central role in the reproduction of social practices.

Moreover, the way that artefacts in middens possessed both the potential for re-use in functional terms and the symbolic value of bearers of memory introduces another key theme: the inseparability of the functional or the everyday from the spiritual and the symbolic in primary Neolithic contexts. The deliberate placement of pots and axes alongside the Sweet Track, or the imbrication of formal deposition in episodes of domestic occupation at numerous other sites demonstrates that the people of the earliest Neolithic occupied a world in which no particular distinction was made between natural and supernatural agencies. Similarly, there are hints that natural places remained places of veneration as well as places to live or to gather material resources. In this respect the various sites discussed in this chapter contrast with the large timber halls that we will address in more detail in Chapter Nine. As we will see, these are rarely located in relation to topographic features that might have been understood as having some form of spiritual power, like the Gwernvale monolith, and with the exception of Warren Field, Crathes, they are not found in places with a history of inhabitation stretching back into the Mesolithic. This is perhaps because their construction itself represented a significant moment of initiation and origin, rather than an event that drew its power from an ancient past. A further contrast is particularly instructive: we have seen that few of the pits, middens and occupation spreads discussed here have very extensive evidence for the harvesting, processing or consumption of cereals, although the bones of cattle and other domesticates are common. But as we will see, some of the halls appear to have been more connected with the growing of domesticated plants. The implications of this will be discussed in Chapter Nine.

Another point that is worth noting is that many of the sites that we have considered in this chapter are ones that eventually had barrows or cairns built upon them. This circumstance could be understood in purely taphonomic terms: the presence of an Early Neolithic mound leads to the preservation of a fragment of a prehistoric land surface, and thus a sample of primary Neolithic activity. But this is to suggest that the process of survival is an essentially random one, and that the landscape of the earliest Neolithic was broadly homogeneous. Any piece of that landscape that has fortuitously survived would contain much the same kind of evidence. However, this seems unlikely, as some kind of link generally seems to have existed between each barrow and the activity that preceded it. In some cases we might consider this in terms of commemoration: where a site had been occupied by the first generations of Neolithic people, a barrow was built in order to celebrate that past presence. However, this categorical distinction between a presence and its recollection may be overdrawn, and it may be more appropriate to think of the construction of a mound as the culmination of a series of acts that were carried out in a given space. Putting this another way, while 'monuments' as such were not generally built at the very start of the Neolithic in any particular region, a set of located practices that might lead toward construction were established at that time. This is an argument that we will pursue further in Chapter Nine, but for the moment it is worth noting the presence of human skull fragments in pre-barrow contexts at both Hazleton and Gwernvale, to some extent anticipating later developments at those sites.

Contact, Interaction, and Seafaring

INTRODUCTION

As we saw in Chapter Five, the notion that Britain and Ireland were culturally isolated from the continental mainland throughout the later Mesolithic is one of the central planks of the argument for a Neolithic transition brought about exclusively by population movement. It is implied that if the indigenous hunting peoples of the islands were not familiar with agriculture, ceramics, polished stone tools, and funerary monuments, and had no contact with social groups the other side of the English Channel, the only conceivable mechanism for the transfer of Neolithic innovations would have been the maritime migration of groups of farming people. One of the principal objectives of this chapter is to evaluate the sustainability of this argument.

Ultimately, the view that British communities had little or no external contact in the period immediately before the start of the Neolithic derives from an article published by Roger Jacobi in the mid-1970s (Jacobi 1976). Jacobi pointed to the effects of the process of sea-level rise that had followed the end of the last glaciation, ultimately flooding the English Channel and severing the land bridge that joined Britain to the continent. By 7600 cal. BC, this land bridge was so reduced as to be only 50 miles wide, and by 7400 cal. BC it had disappeared entirely, replaced by 15 or 20 miles of open water (Jacobi 1976: 73). These developments were coincident with significant changes in lithic technology. All the assemblages from England and Wales dated to later than 7500 cal. BC contain narrow rods and microtriangles, but the broad blades trimmed into trapezoids and rhomboids that characterize north-west European industries of the same period, as well as other distinctive items such as *Feuilles de Gui*, are absent (Jacobi 1976: 75) (Fig. 8.1). As far as could be ascertained from the material record, the physical separation of Britain from Europe was accompanied by the breaking of social ties. As Jacobi put it, 'the detectable "foreign relations" of Britain, did indeed end until the Neolithic Period' (Jacobi 1976: 80).

One immediate point to note is that Jacobi was implicitly presuming that similarities and differences in artefact style directly reflect the degree of contact and interaction between human groups. Thus the divergence of British Late Mesolithic assemblages from those on the continent was a symptom of a lack of social intercourse following the flooding of the Channel. The extent to which material culture variation could be taken as an index of social interaction was a topic of much debate during the 1970s (Wobst 1977; Plog 1978). For some, the sharing of stylistic traits between material assemblages could be understood as an

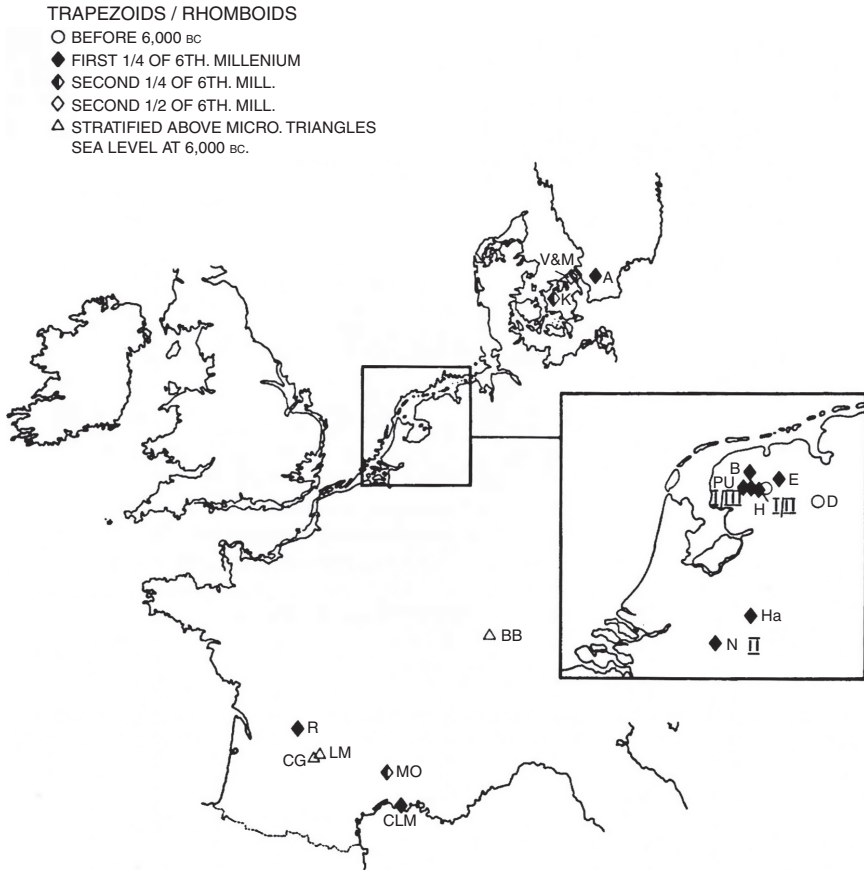


Fig. 8.1. Chronology of appearance of Trapezoids/Rhomboids in north-west Europe (from Jacobi 1976, reproduced by the kind permission of the Prehistoric Society)

accurate measure of the degree of contact between the communities that manufactured them (Deetz 1965; Longacre 1966). However, Ian Hodder's (1982a) ethnoarchaeological work in the Lake Baringo area of Kenya cast doubt on this approach, by demonstrating that people were generally aware of the stylistic variation of the artefacts that they made and used, and could use it knowingly and strategically to construct and negotiate identities for themselves in changing contexts. For instance, Hodder observed that it was possible for women to marry into a new tribe, adopting a new style of dress and set of artefacts and thereby transforming their identity at a stroke. It follows that even quite abrupt boundaries in the distributions of artefact types provide little indication of the intensity of comings and goings between two regions. There is no sense, then, in which the existence of mutually exclusive assemblages of artefacts in different geographical areas can be taken as an indication of the extent of contact between the human populations involved. If identical artefacts occur in two distinct areas it may be likely that some contact took place between them, but the reverse is not the case.

Similarly, in his study of the Neolithic 'temples' of Malta, John Robb demonstrated that the distinctive character of architecture and artefacts was not a reflection of the islands' insularity. On the contrary, the unique material identity of Malta emerged at a time of intensive maritime interaction (Robb 2001: 175). It is therefore fallacious to claim that regions bounded by major bodies of water are any less likely to be engaged in medium-distance contact, or that the character of their material assemblages is an indication of the degree of that contact.

This change in thinking immediately presents difficulties for Jacobi's model of stylistic change reflecting social rupture. And indeed, more recent work by Peter Gendel (1984: 125) has suggested that the formation of regionally specific lithic assemblages was a characteristic of the whole of north-west Europe in the final Mesolithic, and not only Britain. Throughout north-east France, Belgium, the Netherlands, and western Germany there was patterned variation in the form of stone tools, which Gendel relates to the development of increasingly distinct social groups. As we saw in Chapter Six, these very small artefacts would only have conveyed information about personal identity in the most intimate of interactions, but as he puts it:

through the course of the Middle and Late Mesolithic periods, discontinuities in the distribution of style were maintained *in spite of interaction between neighbouring groups*. (Gendel 1984: 131; my emphasis)

It follows that the distinctiveness of British Late Mesolithic chipped stone tool assemblages provides no indication one way or another of the degree of social interaction across the English Channel. None the less, some authorities remain convinced that the last Mesolithic inhabitants of Britain were cut off from the wider world:

Advances in our understanding of Mesolithic communities in Britain and Ireland do *not* lead us to believe that there had been . . . a significant amount of prior contact between communities on either side of the Channel (or indeed the Irish Sea) such as would facilitate exposure to novel resources and lifeways.

(Sheridan 2003a: 4; see also Sheridan 2004: 9)

ISSUES OF INSULARITY

The topography that determined the character of the English Channel in the post-glacial was formed at a much earlier date, by two 'megafoods' that took place between 450,000 and 180,000 years ago (Gibbard 2007: 259). Each of these occurred when a huge glacial lake in the vicinity of the southern North Sea overflowed, cutting a wide, shallow valley. At the start of the Holocene epoch this valley contained a large river, flowing westwards and draining the Rhine, Meuse, Scheldt, Solent, and Rother rivers. The process by which the Channel was flooded was a gradual one, beginning with deeper areas in the far west around 9500 BC, and taking more than 3,000 years to complete (Waller and Long 2003: 353). Recent discussions have stressed that the flooding process involved not merely the disruption of contact between Britain and Europe but the loss of large areas of inhabited dry land, most notably the 'Doggerland' hills in what is



Fig. 8.2. A hypothetical reconstruction of Britain and Dogger Island c.5000 BC, based on a literature survey (from Coles 1998, with the kind permission of Bryony Coles © B. J. Coles and S. E. Rouillard)

now the North Sea, and the Brown Bank west of Holland (Coles 1998) (Fig. 8.2). Van de Noort (2011: 67) argues that at its most rapid this inundation might have been recognized by Mesolithic populations, with the result that they would have perceived the sea as both volatile and endowed with agency. While the process might have gradually forced people to move out of drowned areas, conceivably leading to higher densities of hunter-gather population in some places, it would equally have created a series of rich shoreline environments, potentially capable of sustaining large numbers of people (Field 2008). Although Jacobi maintained that the Channel had constituted a marine waterway by 7400 cal. BC, most authorities now place this development at least a millennium later (Waller and Long 2003).

More importantly, it seems that fully marine conditions were not established in the southern North Sea area until somewhat later, with estimates varying between 6000 and 4500 cal. BC, while Doggerland may have survived as an island as late as 4000 cal. BC (Lambeck 1995: 446; Ward, Larcombe, and Lillie 2006: 214; Van de Noort 2011: 175). In other words, not only did the separation of Britain from the continent take place long after the change in the character of lithic assemblages that Jacobi identifies with the suspension of social contact, it also did not involve the sudden appearance of an impassable body of water. On the contrary, the southern North Sea area would for some considerable time have contained numerous small islands separated by short distances. Such locations might easily have proved attractive to maritime hunter-fisher-gatherers, making them areas in which the interchange between social groups might have been very intensive. And while the Dover Strait might possibly have been close to its present 21 miles in breadth by 5000 BC, we should not overestimate the extent to which it represented a barrier to interaction. Even today it is possible to see across the strait on clear days, and during the past two centuries it has frequently been swum in as little as seven hours.

We should therefore be very wary of the idea that contact between Britain and the continent ceased during the later Mesolithic: lack of material evidence for interchange is too often taken as evidence of its absence (e.g. Pailler and Sheridan 2009: 29). None the less, the introduction of domesticates and Neolithic practices did involve the crossing of water. This may have influenced the Mesolithic-Neolithic transition in Britain in important ways, if not necessarily obvious ones, potentially giving the process a character that was distinct from comparable developments on the continental mainland. As we have seen, Humphrey Case pointed out long ago that the 'Neolithic system' would have had to be carried by sea if it were to reach Britain (Case 1969: 179). Case hypothesized cattle and seed-corn being brought to the islands aboard skin boats, made of ox-hide stretched on a wooden frame, and imagined that the people responsible for this would have been 'adaptable, sea-going and restless' agriculturalists (Case 1969: 183). We saw in Chapter Five that Tresset (2003: 25) followed a similar argument in claiming that it is 'far-fetched' to imagine Mesolithic groups acquiring domestic animals from the continent by sea. Yet as we further saw in Chapter Seven, Mesolithic groups had been perfectly capable of colonizing the Outer Hebrides, Orkney, and Shetland by sea, as well as introducing large quadrupeds to Scottish islands (and perhaps Ireland) by boat. The argument pursued here will be that hunter-gatherers are just as likely to travel by sea as farmers, and that both kinds of societies were probably involved in cross-Chanel interactions during the fifth millennium BC. Given the continuing prejudice against recognizing the maritime abilities of Mesolithic people, a brief consideration of hunter-gatherer seafaring would seem to be in order.

In northern latitudes, the use of boats by coastal hunter-gatherers is the norm rather than an exception (Ames 2002: 20). Quite large vessels were used by hunters in both the North Atlantic and the North Pacific, both in historic times and in the era before contact with Europeans. Very large dugout canoes can be seaworthy, but multi-hide skin boats seem more often to have been used for voyages any distance from the coast (Gould 1968: 13; Hudson 1981). Kenneth Ames (2002: 26) emphasizes the role of boats as instruments of production: where

communities are semi-sedentary, they can be used to bring hunted prey, gathered plants, fuel, and raw materials to them. Skin boats such as the Eskimo *umiaks* could be used to transport up to 5 tons of cargo. However, seagoing vessels can also be used to transport people for visiting or exchange purposes, and can facilitate residential moves where hunter-gatherers accumulate appreciable quantities of household gear, as in the American north-west coast. Being often thinly dispersed over large areas, hunter-gatherers generally maintain very extensive networks of kin and affines, which may cover enormous distances. These networks are reproduced through visiting relationships, the sharing of goods, and the transaction of marriages. The rationale behind such arrangements is both social and economic (to the extent that any distinction can be made between the two), since wide webs of sociality provide a kind of insurance against food scarcity as well as enabling people to find marriage partners, generate prestige, access scarce materials, acquire useful information, gossip, and arcane knowledge, take part in ceremonial activities, and so on (Whallon 2006: 261). In some areas, the maintenance of these social contacts was a more important reason for building boats than fishing or whaling (Arnold 1995: 736). For hunting and fishing societies, seagoing vessels represented a major investment of effort, which might only be mobilized by a relatively important or charismatic person. As such, they could represent a kind of wealth, as well as a means of gaining access to valuable special-purpose foods and marine animals (Piddocke 1965: 245; Arnold 1995: 737). Sometimes it is possible to compare boats with monuments, as collective projects whose social significance goes beyond their practical value (Richards 2008: 211). But in any case, boat-use represents a significant shift towards delayed-return economics, which may promote changes in the character of social relationships, particularly where a community becomes the collective owner of a vessel.

There is strong evidence that seagoing craft were used in the Old World in both Mesolithic and Neolithic times. Obviously, the human colonization of some parts of the globe at relatively early dates must have been achieved by crossing the sea. Hominins may have crossed the Strait of Gibraltar 1 million years ago, and reached the Indonesian islands 750,000 years before present. People had certainly arrived in Australia by 40,000 BC, and may have crossed the Bering Strait between 30,000 and 15,000 years ago, if access to the Americas was not achieved at a time when a land bridge existed (McGrail 1991: 85, 2010: 96). Some of the earliest of these journeys may have been achieved using log rafts or inflated animal skins, but true boats would have been required for the longer trips in which any level of navigational skill was involved. In the north-west European context, Ireland must have been reoccupied by sea in Late Glacial or post-glacial times, probably across the North Channel from Argyll (Wickham-Jones and Woodman 1998: 17; Rainbird 2007: 145). By the eleventh millennium BC obsidian from the island of Melos was being circulated by sea around the Aegean, and it is possible to hypothesize the existence of a 'hunter-gatherer maritime network' in the eastern if not the western Mediterranean (Broodbank 2006: 208). Log boats have been found in preserved condition in northern Europe dating from the eighth millennium BC, at Pesse in the Netherlands and Noyen-sur-Seine in northern France (McGrail 2010: 99), and continued in use through to the 18th century (Cheape 1999: 851). The Mesolithic example from Tybrind Vig in Denmark was 10 metres long, while two large log boats dating to 3700–3400 BC have recently been

recovered from Larne Lough, Co. Antrim (Cooney 2004: 147). A further dugout from Lurgan, Co. Galway, 15 metres long and Late Neolithic in date, had pairs of holes that may have held an outrigger (Robinson, Shimwell, and Gribbin 1999). This would have made it considerably more stable in the open sea. None the less, McGrail (1991: 89) argues that large boats made by stretching animal hides on a wooden skeleton are more likely to have been used for open sea voyages in the Mesolithic. Such vessels are considerably less likely than logboats to survive archaeologically, a sole example being the frame of a fourteenth-century *umiak* excavated in Greenland (McGrail 2010: 100). Yet it is a telling point that wooden paddles are a comparatively common find in waterlogged Mesolithic sites in Scandinavia, Germany and the eastern Baltic, as well as having been recovered at Star Carr (Pickard and Bonsall 2004: 275–6; van de Noort 2011: 150). On the other hand, sails may not have been introduced until the late fourth millennium BC, initially in the eastern Mediterranean (Farr 2006: 90). Sailing craft thus might not have existed in Mesolithic or Neolithic Europe, and this would have limited the extent of early voyaging (McGrail 1993: 203). Similarly, sewn-plank boats appear to have represented a distinctive Early Bronze Age maritime technology in northern Europe, although some have argued that they may have had Neolithic antecedents (van de Noort 2003: 405; Coates 2005). Composite Bronze Age vessels such as the Ferriby and Dover boats demonstrate an elaboration of logboat technology so sophisticated that a long ancestry is hypothesized (Crumlin-Pedersen 2010: 114).

In the Baltic zone, Zvelebil argued that both dugout logboats and skin boats were routinely used as means of circulating both prestige goods and raw materials in pre-agricultural times (2007: 180). Ertebølle inhabitants of the island of Bornholm were undoubtedly in contact by boat with the Danish mainland 37 kilometres away (a greater distance than the breadth of the English Channel) (Fischer 2002: 379). We have seen already that similar maritime communication existed in parts of Mesolithic Britain and Ireland. On the island of Oronsay, red deer and pig were imported by sea during the Mesolithic, while the seasonal movement of people to other islands is suspected (Richards and Mellars 1998: 178). Equally, bloodstone from the island of Rùm was circulated over distances of up to 50 kilometres by sea, and Mesolithic sites on the Isle of Skye have produced stone tools made from material drawn from a number of different island sources (Warren 2000: 98; Hardy and Wickham-Jones 2002: 832). It is also suggestive that the so-called Obanian assemblage of western Scotland is characterized by barbed bone points suited to the taking of marine mammals and large fish, which may not have been encountered exclusively on the shoreline (Pollard 1996: 201). At sites such as Téviec and Hœdic in Brittany and Morton in Scotland, arguments have been made for the practice of deep-sea fishing during the Mesolithic, on the basis of fish species representation (Scarre 2002a: 25). However, most fishing was apparently done close to shore, and Pickard and Bonsall (2004: 276) argue that although long-distance sea voyages did take place in the Mesolithic, they were not for exclusively economic purposes, a suggestion that complements the ethnographic evidence discussed above.

There is also a slim but growing body of material evidence for maritime contacts between Britain, Ireland, and the continent during the Mesolithic. As we have noted already, the recovery of butt-trimmed Bann Flakes from a number

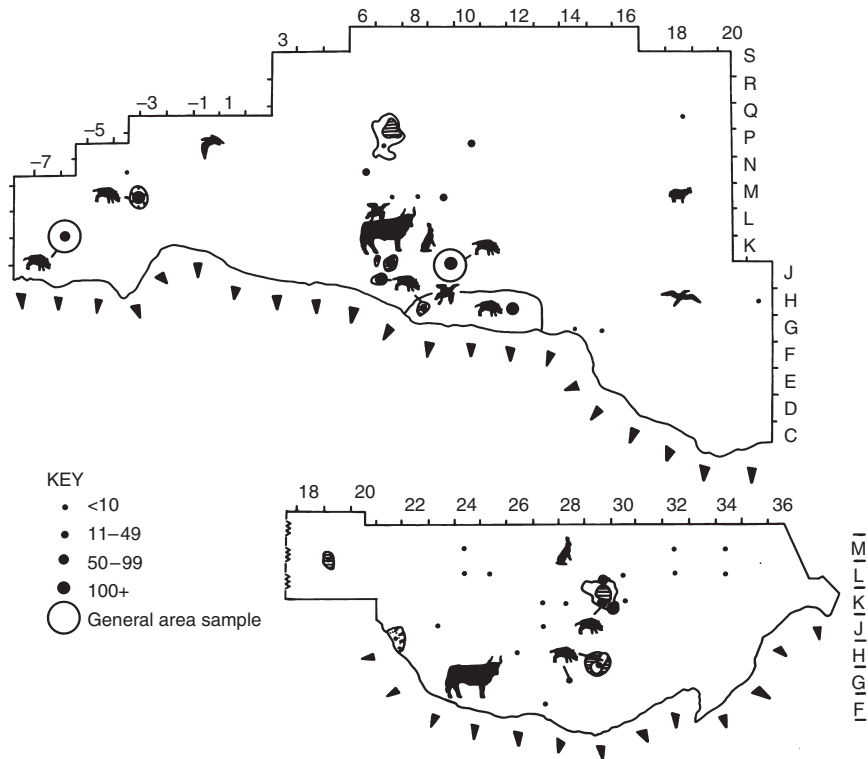


Fig. 8.3. Schematic representation of mammal and bird bones at Ferriter's Cove, Dingle, Ireland (from Woodman, Anderson, and Finlay 1999, with the kind permission of the Wordwell Press)

of sites in south-west Scotland suggests a degree of interaction across the Irish Sea (Saville 1999; Cobb 2007: 238). These may be local copies of artefacts from Ireland or the Isle of Man, but the point stands. There are also a number of possible examples of pre-Neolithic domesticated animal bones from Ireland, already briefly mentioned in Chapter Five. These have either been recovered from Mesolithic contexts, or have produced early radiocarbon dates. Of these, the most reliable appear to be the seven cattle bones from the Mesolithic site of Ferriter's Cove in County Kerry (although one sheep tooth has now been found to be a later intrusion) (Woodman, Anderson, and Finlay 1999: 124) (Fig. 8.3). There were no Neolithic finds from the site, save for an unstratified flint knife, and the radiocarbon date of 4407–4326 cal BC from one of the bones is both decisively pre-Neolithic and broadly comparable with the estimate of 5060–4420 cal BC (at 68 per cent confidence) for the occupation of the central, northern, and southern parts of the site (Woodman and McCarthy 2003: 32; Whittle, Healy, and Bayliss 2011: 626). Some of the other sites are less convincing: at Derragh, the animal bone appears to be later than the Mesolithic occupation from within which it was recovered, and potentially dates from the earliest Neolithic (Fredengren 2009). The same may be the case with the sheep humerus from the south basal midden at

Dalkey Island, near Dublin, dated to 4040–3640 cal. BC (OxA-4566) (Woodman, McCarthy, and Monaghan 1997: 138). The very early date from an unidentifiable bone from Sutton is potentially significant, since given the absence of wild cattle or deer in post-glacial Ireland, it was too large for any native wild ungulate. However, it remains a possibility that it came from a bear (Woodman and McCarthy 2003: 36). At Ringneil Quay, in County Down, cattle and sheep bones were discovered beneath 1.5 metres of marine sediment (Woodman and McCarthy 2003: 34). A date of 4450–3960 cal. BC (Q-770) was obtained from the same layer as the bones, but within a different trench, so the result is no more than suggestive. More promising is the evidence from Kilgreany Cave, where a cattle tibia gave a date of 4070–3940 cal. BC (OxA-4296). Although burials associated with Carinated Bowl pottery came from elsewhere in the same cave, one of these produced a date 600 years later (Dowd 2002: 80). If we accept Whittle, Healy, and Bayliss' (2011: 662) argument that the Irish Neolithic did not begin until around 3800 BC or even later, the Kilgreany bone date would fall into the final Mesolithic. The same might apply to domesticated cattle bones from a Mesolithic context at Lough Kinale II in County Longford, where occupation appears to have ceased around 4000 BC (Fredengren 2007). Of course, in these last two cases it is possible that the animals concerned had been acquired from southern Britain rather than the continent.

We have already noted Tresset's (2003: 25) reservations regarding the possibility that Mesolithic mariners visited the continent and returned with livestock. But there is really no strong reason why a visiting and exchange trip in a skin or log boat should not have acquired a trussed-up calf, a side of beef, or minimally just a few bones from a fabulous, monstrous creature, potentially for magical or ritual use. Certainly, the technical feasibility of such voyages is supported by recent simulation studies (Callaghan and Scarre 2009: 368), and Garrow and Sturt argue that the western seaways would have been well suited to long-distance coastal tramping throughout the fifth millennium BC (2011: 65). However, we should concur with Tresset and Vigne (2007: 200) when they distinguish between the acquisition of animals and that of husbandry practices. Even if live cattle were brought to Ireland, it seems improbable that they formed the basis of precocious Mesolithic herds, or gave rise to any immediate shift to a Neolithic way of life. More likely, they would have swiftly been transformed into a memorable feast, or their flesh shared out amongst a community and its neighbours. Woodman and McCarthy (2003) conjecture that some of the domesticates involved might have been acquired from southern Brittany or the Loire Estuary, and indeed the Ferriter's Cove occupation was no earlier in date than the beginnings of Neolithic activity in Brittany as a whole.

Further evidence of fifth millennium BC contacts between the Irish Sea zone and the continent may potentially be hinted at by early cereal pollen from a number of locations. Such occurrences are not uncommon throughout the post-glacial, and can often be attributed to the considerable difficulties of distinguishing cereal pollen from wild grasses (Tipping 1994). However, at sites such as Ballachrink on the Isle of Man, cereal pollen occurs alongside other indicators of clearance and cultivation. It has been argued that pre-elm decline cultivation episodes were concentrated in the areas surrounding the Irish Sea, and in the period 4900–4700 BC (Edwards and Hiron 1984; Innes, Blackford, and Davey 2003: 609). This would be broadly contemporary with the earliest Neolithic

presence on the north French coast. These findings should perhaps not be rejected out of hand, although from an archaeological point of view they would probably seem more secure if they were supported by other classes of evidence. But to be fair, if they represented no more than the experimental cultivation of cereals by indigenous people who had acquired seed through long-distance contacts, but who had not altered their Mesolithic way of life in other respects, it is hard to see what form this corroboration might take. Yet even if we very cautiously accept the possibility of early fifth millennium cereal-growing, it is evident that like the Ferriter's Cove and Kilgreany cattle, its presence did not immediately inspire the adoption of the entire suite of Neolithic innovations. As we have noted already, the mere presence of domesticates is not the same as a wholesale transformation of social and cultural practices.

One possibility that has been discussed in the literature is that maritime contacts around the Irish Sea, whether involving exploratory farmers from Brittany or a sea-focused Mesolithic, might have 'fast-tracked' the region into the Neolithic (Callaghan and Scarre 2009: 359). For a variety of reasons, the Irish Sea might potentially have nurtured the development of seafaring. Not only is travel by boat faster than walking, especially where the land is wooded, but the north-south currents and indented coastlines would have been favourable to navigation (Noble 2006a: 27). As a relatively narrow, linear body of water, it can be traversed without going out of sight of land for long at any point, while the mountains of the Lake District, Snowdonia, Mourne, and the hill of Criffel continually loom in the further distance (Cooney 2004; Watson 2004). Given the indications that domesticated plants and animals may have appeared early in the region, it has been argued that fully Neolithic communities developed here as much as two centuries earlier than elsewhere in Britain and Ireland (Rainbird 2007: 147). However, recent dating evidence puts this view very much in question, by placing the inception of the west British Neolithic appreciably later than the east (Whittle, Healy, and Bayliss 2011: 729). While it is probable that there were contacts between the Irish Sea zone and north-west France during the later fifth millennium BC, and that these involved both British and continental mariners, there is little conclusive evidence that they gave rise to a precocious Neolithic.

THE MEANING OF SEA-CROSSING

In a rare evaluation of the importance of marine travel in the British Mesolithic, Graeme Warren begins to point to the place of the sea in Mesolithic constructions of identity (2000: 102). Seafaring in pre-modern contexts represented a highly specialized assemblage of skills and knowledge. In the contemporary world, maritime navigation is primarily a technical exercise, but for voyagers in skin boats it would have involved a bodily awareness of the potential of the craft, as well as an accumulated understanding of landmarks on the shore, currents, tides, wind strength and direction, and the positions of the stars (Ingold 2000: 239). At the same time, traditional societies often consider the sea to be animate, a dangerous and unstable realm inhabited by terrifying creatures or imbued with spiritual energy (McNiven 2003: 332). Those people who habitually went out to

sea, particularly if they were away from their community for days or weeks at a time, might easily take on an enhanced status, and be set apart from others. Those who went on voyages together might develop unique social bonds and forms of solidarity. But as Warren argues (2000: 102), if particular Mesolithic communities as a whole routinely took their food from the sea, even on the shoreline, theirs would be a more 'maritime' sense of identity than that of continental agriculturists who ate little or no fish or sea mammals. Their perception of landscape might have been one that looked towards the shore from the sea, rather than vice-versa. This provides us with another potential reason why the process of bringing Neolithic innovations across the sea is just as likely to have been the prerogative of Mesolithic groups as Neolithic ones: they were if anything more likely to have had an affinity and a familiarity with the ocean.

So some Mesolithic groups may collectively have understood themselves to be connected with the sea, while skilled mariners amongst them may have enjoyed a position of respect, authority, and even awe. Importantly, this means that although the North Sea would have been an area of treacherous tides, sandbanks, and fast currents during the fifth millennium BC (Garrow and Sturt 2011: 63), those who navigated it may have acquired greater prestige and renown than those who frequented the comparatively placid waters of the western seaways. Some measure of the symbolic importance that was afforded to seafaring in Late Mesolithic and Early Neolithic northern Europe is provided by a series of burials in boats. At Møllegabet II on the island of Funen, an Ertebølle grave contained a body inside a dugout canoe, wrapped in bark (Larsson 2004: 378). There are at least twelve known canoe burials attributable to the early TRB, including examples at Øgårde 13 and Øgårde 29, as well as a series of boat-shaped earth-graves of the same date (Strassburg 2000: 359). It is tempting to conclude that death was here being compared with a sea journey, as a voyage into a mysterious realm, which conferred a particular status on the traveller. Significantly, a possible burned dugout canoe burial dating to early in the Neolithic has recently been reported from Old Parkbury Farm, near St Albans (Niblett 2001: 159). Here a large pit with traces of burning contained what may have been the remains of a canoe 5.3 metres long and 1.07 metres wide, although it is likely that this was only a fragment of an even larger vessel (Fig. 8.4). It had been used as a coffin for a cremated adult. The canoe produced a radiocarbon date of 3960–3797 cal. BC (OxA-3301). That especial value was being placed on sea voyaging shortly after the beginning of the Neolithic is perhaps suggestive.

Mary Helms (1988) has written at length about the significance of journeying and spatial distance in pre-modern societies. As she puts it, distance has a cosmological role, so that far-off places are understood as not merely mysterious but removed from the conditions that surround everyday life. Going to a remote location is like visiting another world, where different circumstances prevail, or indeed an alternative reality of spirits and ancestors. It follows that those who travel over the sea are at once crossing a dangerous, unstable, anomalous, and transformative medium and visiting mythic, potentially sacred destinations. Sea voyaging is therefore heavily symbolically freighted, and is often surrounded by taboos and prescribed behaviour (Helms 1988: 25; Richards 2008: 214; van de Noort 2011: 178). Since not all people will have the opportunity to engage in, or be capable of, this kind of travel, the knowledge acquired by seafarers will be

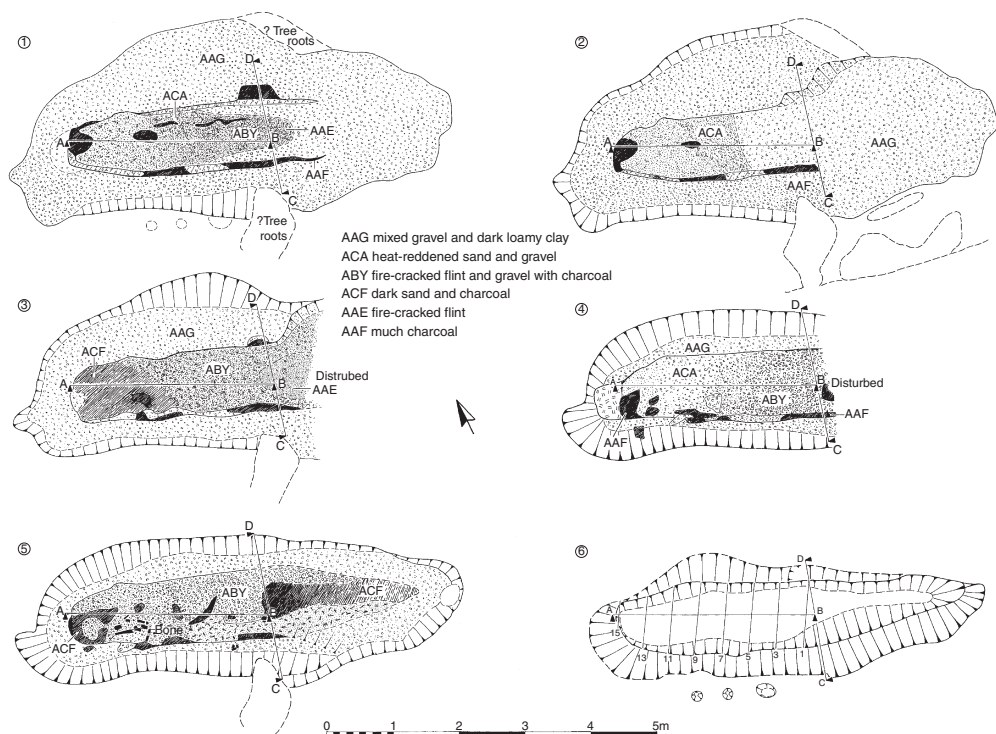


Fig. 8.4. Possible dugout canoe burial at Old Parkbury Farm, St. Albans (from Niblett 2001, with the kind permission of John Wiley and Sons)

inherently restricted, and consequentially highly valuable. In the case of later Mesolithic Britain and Ireland it is to be presumed that contacts with the continent would be sporadic, and while relationships might be maintained with specific communities, news of their doings might be acquired infrequently. The overall familiarity with people across the sea could have been imperfect, supplemented by rumours and myths, gossip and conjecture. By implication, when social groups scattered across the Atlantic façade first began to acquire domesticates and new kinds of artefacts, first-hand experience of these things would have been preceded by stories, in which their fabulous, monstrous or magical qualities would have been emphasized. Neolithic communities became established on the Channel coast at two distinct times. Villeneuve-Saint-Germain groups were present in coastal Normandy from around 4900 BC, while Chasséen/Michelsberg-related entities such as Spiere became active in the Pas-de-Calais from about 4300 BC. These two horizons might be predicted to have been ones in which an indirect impact was palpable in Britain, filtered through the medium of cross-Channel voyaging, whether on the part of Mesolithic or Neolithic groups. It is indeed possible that low-density interactions in the earlier fifth millennium BC intensified once a Neolithic presence existed on the other side of the narrowest part of the Channel.

Just as distance and the crossing of water might have affected the way that Neolithic innovations were first reported and understood by people in Britain, so the value of material things would have been altered by their movement over distance. Helms (1988: 76) stresses the way that fine artefacts that have been acquired from far-off places can be used to generate prestige, since in addition to their inherent scarcity they are implicitly associated with metaphysical beings or sacred locations. Their tangible presence serves as physical evidence of the existence of those places and beings, and forms a focus for story-telling and speculation. Thus if artefacts were acquired on trips to the continent or from overseas visitors, they would not only have been of wholly unfamiliar type, but would have had a value that was enhanced by the distance that they had travelled, and the inherent danger involved in crossing the sea. Although Mesolithic people may have emphasized sharing and adhered to customs limiting the accumulation of wealth, the acquisition and control of such goods might have proved especially tempting, and have represented a challenge to traditional values. The arrival of material things from the continent might thus prove a catalyst for social change, towards greater inequality. Equally, when British hunter-gatherers first encountered domestic cattle or sheep they might easily have perceived them both as supernatural beings and as especially desirable food. But conversely, Nancy Munn (1986: 128) describes the way that in Melanesia *sending* objects such as canoes and kula valuables overseas may be understood as a means of acquiring prestige or social standing by extending one's network of social connections. For Neolithic communities in continental Europe the cultivation of exchange links with British groups might have offered the advantage of broadening the scope of their effective social action, as well as acquiring marriage partners, clients, and labour. Peter Bellwood has argued that hunter-gatherers are less likely to adopt agriculture across either what he calls 'biogeographical transition zones' or uninhabited terrain, since direct and continuous contact between groups is required for the transfer of resources and know-how (2005: 41). In the case of Britain, the particular status of a recently-created offshore island might have made things very different. The geographical discontinuity with the continent undoubtedly contributed to the delay in the arrival of domesticates and cultural innovations, but it also established conditions in which the way that they were understood and valued was transformed.

TRACES OF INTERACTION

As we have already seen in Chapters Two and Three, the beginning of the Neolithic over much of Europe was prefigured by the establishment of exchange networks that linked hunter-gatherer and agricultural communities. This pattern was especially pronounced in north and north-west Europe. In northern Germany, south Scandinavia, the Low Countries, and Brittany, large numbers of LBK and post-LBK shaffhole adzes have been discovered in areas remote from Danubian settlement, sometimes in unambiguously Mesolithic contexts. For instance, adzes are known from an Ertebølle surface scatter at Store Åmose in Denmark, a late Mesolithic grave containing microliths and red ochre at Bad Dürrenberg in

Germany, and a possible Mesolithic dwelling at Sarching, near Regensburg (Fischer 1982: 7; Verhart and Wansleben 1997: 69; Verhart 2000: 35). In total, over 180 LBK adzes have been recovered from the Ertebølle area, at least twenty of them from Mesolithic settlement sites (Klassen 2002: 308). In the period following the decline of the *Linearbandkeramik* this interaction across the 'agricultural frontier' appears to have been sustained. In Holland, the distribution of Rössen *breitkeile* (or perforated wedges) is even denser than that of shafthole adzes (Louwe Kooijmans 2007: 296), while in Schleswig-Holstein and Denmark greenstone and jadeitite axes have been reported from late Mesolithic contexts (Klassen 2002: 311–12). Klassen (2004: 100) has identified the chronological sequence of imports into northern Germany and south Scandinavia. The process began in the later sixth millennium BC, with objects from LBK groups in Belgium and Germany west of the Rhine entering the Ertebølle area. Later, from perhaps 4900 BC onwards, the source of exchange objects shifted eastwards, to the Elbe-Saale region, and then Lower Saxony and the Oder Estuary. One of the reasons for the shift was the decline in the production of shafthole adzes in western Europe in the post-LBK era. However, by 4300 BC if not earlier, jadeitite axes of Alpine origin also began to enter the Baltic zone.

A number of authors have identified these transactions between hunters and farmers as an important, even instrumental, element in the transformation of Mesolithic societies. Fischer (1982: 11) emphasizes the symbolic value of objects like shafthole axes, which served as grave-goods in the LBK, associated especially with elder males in funerary contexts. The transfer of such prestigious items into Mesolithic networks might be important in forging durable exchange pathways, which might in turn provide the channels through which domesticated plants and animals could be acquired by hunting groups. Verhart (2000: 31) pursues a similar line of reasoning by drawing attention to a series of ethnographically documented cases of first contact between communities that are distinct from each other in economic and cultural terms. In these circumstances, the initial transfers of material between the groups concerned tend to be of symbolically or socially significant artefacts, rather than subsistence innovations. However, he adds that these items are generally recontextualized within the cultural order of the recipients, so that their meaning can be entirely transformed. In the case of shafthole adzes, it is likely that their significance for Mesolithic communities was quite distinct from their prestige role in LBK society. Finally, Zvelebil (1996: 335–8) points out that relations between Neolithic and Mesolithic groups might be unbalanced, and might change their character over time. While initial contact would provide hunter-gatherers with access to valuables that would prove attractive and advantageous within their own social strategies, through time the circulation of these goods might disrupt established social relationships. Moreover, the provision of raw materials and wild foods in return for prestige goods would put in place an unequal relationship that might escalate into the acquisition of hunter-gatherer women by Neolithic groups. In Zvelebil's view, Mesolithic communities experienced a corrosion of their social fabric, and were inevitably drawn into an essentially predatory Neolithic system. This is rather different from the picture presented by Fischer, in which Mesolithic people transformed their own conditions of existence through the acquisition of Neolithic innovations. We might choose to take a middle position between Zvelebil and Fischer, arguing that while

the introduction of desirable prestige artefacts into hunter-gatherer societies might begin to undermine Mesolithic traditions, sharing customs and social relationships, it also fostered circumstances that some members of society could exploit to their own advantage.

If, as we have been arguing, Mesolithic people in Britain are likely to have been in sporadic contact with the continent, and will have been at least vaguely aware of the advent of new kinds of artefacts and new species of plants and animals that were arriving there, it might be expected that an early manifestation of this contact would take the form of the acquisition of continental artefacts, especially prestige valuables. We have discussed at length the occurrence of bones of domesticated animals in Mesolithic contexts in Ireland and of cereals in the Irish Sea zone in general, but it seems inherently more likely that distinctive, robust, and relatively small artefacts would find their way across the Channel, particularly given that their value would have been enhanced by their passage over the sea and their origin in distant places. Why, then, are there no Danubian shafthole adzes in Britain? Does their absence actually support the argument that the islands were cut off from cultural contact in the fifth millennium BC? We have seen that the changing pattern of exchange in the Nordic region was partly attributable to the declining manufacture of shafthole adzes in western Europe. If Neolithic communities were established on the Norman coast in the earlier fifth millennium BC, and the Calais coast after 4300 BC, shafthole adzes may not have been the principal material symbol of prestige and identity that they were using. For as Pierre Pétrequin has argued, the continent in the fifth millennium BC was divided between a 'Europe of copper and gold' in the east, and a 'Europe of jade' in the west (Pétrequin, Errera, et al. 2011: 261). Therefore, if maritime contact had existed between Britain and the continent in the period before 4000 BC, the main archaeologically detectable signature that we would predict to find would be not shafthole adzes, but Alpine jade and jadeitite axes (a suggestion that I owe to David Field).

JADE AND JADEITITE AXES IN EUROPE

Axes of 'jade' or 'jadeitite' represent one of the most distinctive and striking artefact types found in the European Neolithic, although the terminology employed to describe them is often confusing (Pétrequin et al. 2012). Fine, green-stone axes from the Alpine region consist of both nephrites (amphibole) and sodic pyroxenes, including jadeite, omphacite, and chloromelanite, while eclogites are omphacites which have garnet inclusions, and are consequently rather coarser in texture (Ricq-de Boyard 1993: 61; D'Amico et al. 1995: 29). Rocks that are composed almost entirely of jadeite pyroxene are now generally referred to as 'jadeitite'. All of these rocks have mechanical characteristics that make them highly suitable for use as axes, notably their toughness (Thirault 2005: 35). However, many of these stones have a 'fibrous', knotted microstructure, which makes them difficult to work. Flaking or pecking is difficult to achieve, while sawing and grinding are laborious (Pitts 1996: 320). In some cases, fire-setting may have been used to detach blocks of rock from the parent material (Sheridan

et al. 2010: 22). The distribution of jade axes throughout much of north-west Europe, and of stone rings made from similar materials in northern Italy and north-west France, has long been recognized (e.g. Forde 1930). Despite this, the source of these artefacts was for some while a subject of debate, and the possibility that jadeitite might have been procured in Brittany was entertained (Campbell Smith 1963: 152). However, jade implements are especially common in the Alpine zones of France and Italy, where eclogites were more often used than jadeitites, and the axes tend only to be polished over part of their surface (Ricq-de Boyard 1993: 63). Large, fine, thin, fully-polished axes represent a larger proportion of the items found further to the north, where there are concentrations in Brittany, the Rhine, and the Weser (Campbell Smith 1965: 26; D'Amico 2005: 247). These circumstances alerted specialists to the probability that a source would probably be located in north-west Italy, in Liguria and Piedmont.

For a long while it was assumed that jadeitites and eclogites would only have been exploited in secondary deposits, as small boulders and pebbles at relatively low altitudes (D'Amico 2005: 239). However, an important research project conducted by Pierre Pétrequin and his collaborators has recently identified two groups of quarries, in the areas surrounding Mont Viso and Mont Beigua in Piedmont. These appear to have been the sources of much of the eclogite, omphacite, and jadeitite used in Neolithic Europe (Pétrequin et al. 2006: 7, 2012). Here, seams and large boulders of material suitable for axe manufacture occur amongst spreads of serpentine in mountainous country up to 2400 metres above sea level (Pétrequin et al. 2006: 10). It follows that access to these sources would have been seasonal rather than continuous, a pattern that concurs with ethnographic accounts of axe-making in pre-industrial societies (Burton 1984). In the Mont Viso area the extraction of eclogites to make axes for comparatively local use appears to have begun during the sixth millennium BC (Thirault 2005: 42; Sheridan 2007b: 24). The identification of working areas at the quarry sites has been illuminating, since although there are extensive spreads of waste flakes, and boulders with removals, there are very few roughout axes (Pétrequin et al. 2006: 11). In other words, only the initial stages of axe manufacture seem to have taken place at the source, a feature that is sometimes connected with the absence of craft specialization or social control over production (Torrence 1986: 40). Activity at the quarry sites continued until around 3000 BC, although it seems to have decreased dramatically in scale from 4000 BC (Pétrequin et al. 2006: 14). One of the impressive features of the work by Pétrequin and his team has been the identification of a chronological sequence for the types of axes that were produced over this period, although it must be admitted that this could be refined through the acquisition of a larger body of associated radiocarbon dates and the application of statistical analysis (Fig. 8.5). Broadly speaking, the different forms that they have distinguished are divided into 'southern' and 'northern' types, with the former being earlier in date and concentrated in Italy, southern France, and Switzerland. In addition to more ubiquitous styles are 'Carnacéen' types that had been reworked in southern Brittany (Pétrequin et al. 1997: 142; Pétrequin, Sheridan et al. 2011: 68). While the southern styles were generally rather narrow, with a blade that merged gently into the sides, the northern ones had a broader, flatter, triangular profile. Within this overall division, specific axe types appear to have had a relatively limited currency:

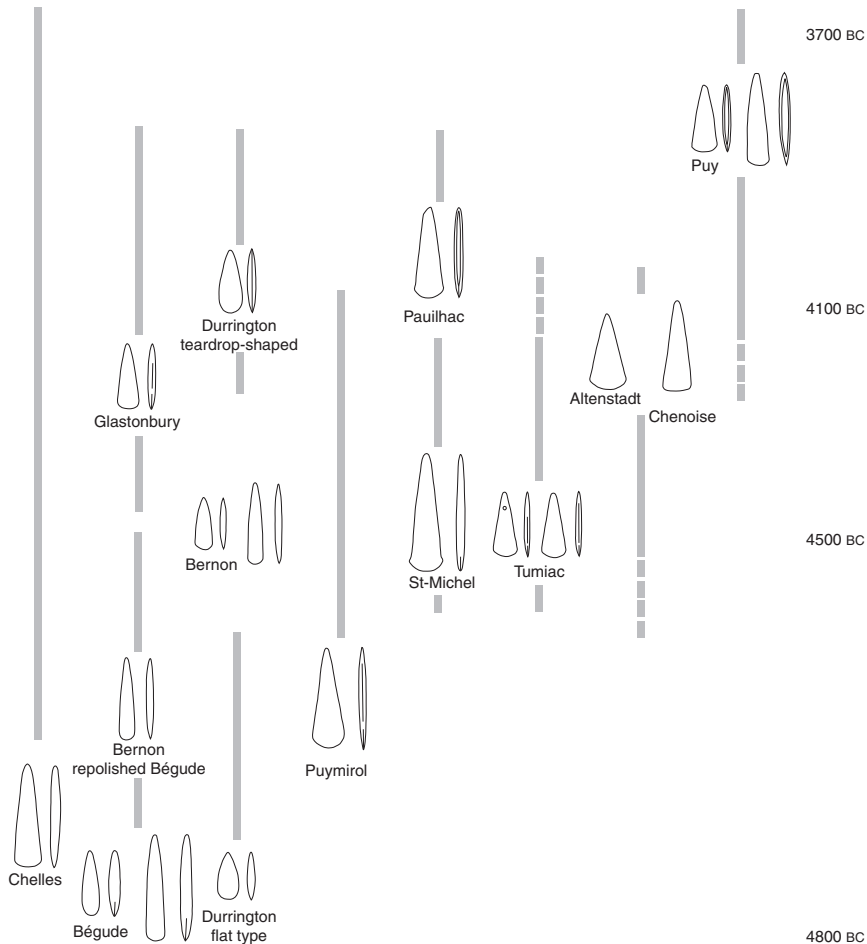


Fig. 8.5. Chronology of jadeite axes (redrawn from Pétrequin et al. 2011)

The idea that there was a long-lived transmission of axeheads across the generations, which would have led to the mixing of types that had not been made at the same time, does not seem to be borne out by our seriation. (Pétrequin et al. 2008: 265)

What this implies is not only that particular styles of axes were only produced for a limited period of time, being replaced according to shifts in aesthetics or value, but that artefacts were progressively taken out of circulation. This is a familiar way in which the value of exchange goods can be maintained if they are continually being produced (Gregory 1980: 645). Destruction or deposition are used to regulate the numbers of objects in circulation, while also providing an opportunity for display, conspicuous consumption, and the generation of prestige.

Over time, the distance over which the products of the Alpine sources were distributed seems to have expanded. Small, but fully polished axes travelled as far as the Paris Basin, 550 kilometres away, during the earlier fifth millennium BC. Larger, finer axes seem to have been introduced to northern France towards the

end of the Villeneuve-Saint-Germain period (Pétrequin et al. 1997: 145). In a variety of ways, the form and appearance of the axes became progressively more elaborate as they were exchanged over greater distances, and functioned less as everyday tools and more as markers of identity, status, and authority, or as tokens of relationships and alliances between communities. Gradually, the rougher eclogites from Bulé near Mont Viso were replaced by fine pale jadeitites from Porco in the Mont Viso massif or Mont Beigua (Pétrequin et al. 2008: 270). The surfaces of the axes first became fully polished, and then in Brittany they began to be repolished. This is particularly interesting, as it demonstrates that axes were reworked to achieve a fine, glossy surface, and often also to create a thin, almost translucent artefact, at some distance from their original source. By implication, these axes were undergoing a series of transformations in their value and significance as they moved further and further from their place of origin. Another example of this is the way that many of the jade axes found in Brittany had been perforated at the butt end (Bradley 1990: 303; Pétrequin et al. 1997: 140). This suggests not simply an elaboration of form, but also a way in which an object was incorporated into a localized cultural order, suspended for display or even hanging as part of an important person's regalia. While the circulation of Alpine jade axes took many of them northwards, they are also known in appreciable numbers from southern Italy, where the presence of local sources of nephrite suggests that their importance was not exclusively functional (Leighton and Dixon 1992: 186), and from as far away as Slovakia and Bulgaria, where a number of fine triangular axes have been found (Tsonev 2008: 61; Pétrequin, Errera, et al. 2011: 247).

In Brittany, 800 kilometres away from the stone sources, particularly large axes were introduced from some time before 4500 BC. These range between 15 centimetres in length up to the massive axe from the Mané-er-Hroëk, which is 46.6 centimetres long (Pétrequin et al. 1997: 136). A number of these large axes were deposited in the chambers of the massive Carnac mounds of the Morbihan (see Chapter Three), such as Saint Michel and Tumiac, where they occur alongside fibrolite axes and Iberian variscite beads. Yet the importance of Alpine axes in northern France seems to have been short-lived. The large axes ceased to circulate by the end of the Castellar period, and jade axes had ceased to reach the Paris Basin and the Rhineland altogether by around 4000 BC, although sporadic examples of small axe-head pendants and chisels were made and circulated much later (Pétrequin et al. 1997: 145; Sheridan et al. 2011: 415). In Brittany, fibrolite axes of possible Iberian origin eventually replaced jade (Pailler 2005: 226).

JADE AND JADEITITE AXES IN BRITAIN

There are now more than 130 Alpine axes known from Britain and Ireland. Most of these are jadeitite, although a small number are of nephrite (Campbell Smith 1963: 133; Sheridan 2007b: 22; Sheridan et al. 2011: 412). As in Brittany, the British and Irish axes exist on the northern fringe of the overall distribution, where their role as functional tools was arguably eclipsed by their place in social transactions and display. However, I wish to argue that the significance of jade and

jadeitite axes in Britain was actually enhanced by their having crossed the Channel, and their having originated in places that were understood in mythical or magical terms. For this reason, the degree of formal elaboration applied to Alpine axes in Brittany would not necessarily have been required: their mere existence was testimony to contacts with sacred and powerful beings and places. The distribution of continental axes in Britain and Ireland is by no means uniform. There are concentrations in southern Wessex, East Anglia, the Peak District, south-west Scotland, the Scottish Borders, and Perthshire (Campbell Smith 1963: 147). Yet there are only four jade axes in the whole of Ireland, despite the colossal numbers of axes of local stone that have been reported (Cooney and Mandal 1995: 969). A number of authors have recognized that the Scottish distribution is separated from the English by a gap covering much of northern England (Murray 1994: 97). Significantly, the composition of the axes found in these two provinces is rather different. The thin, triangular northern axe types such as Altenstadt and Greenlaw predominate in Scotland (as well as in both East Anglia and Ireland) (Fig. 8.6), while the Wessex group is more diverse, including the Durrington, Glastonbury, and Puy styles (Pétrequin et al. 2008: 270). Smaller 'hachettes' are also more likely to occur in Wessex (Wooley et al. 1979: 92). It is therefore conceivable that different combinations of continental contacts were

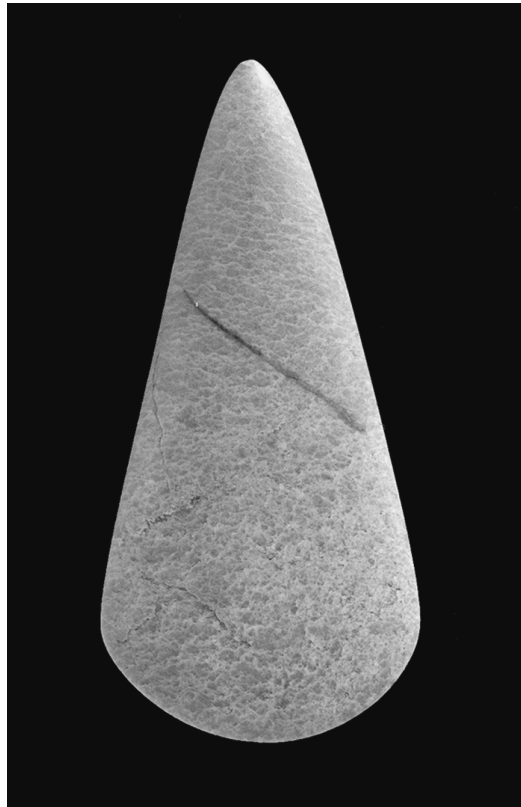


Fig. 8.6. 'Northern' triangular jadeitite axe from Histon, near Cambridge (accession number 1907.915) (photo courtesy of the Museum of Archaeology and Anthropology, Cambridge University)

involved in introducing the axes into these different areas. Lowland Scotland and southern England were also both areas that saw dense activity early in the Neolithic, and it is therefore plausible that jade axes had some role in the process of Neolithization.

However, in contrast to either flint axes or stone implements from sources in the west of the country, jade axes are very rarely found in any closed Neolithic context in Britain. For instance, large numbers of insular stone axes have come from the ditches of causewayed enclosures such as Windmill Hill, Etton, and Hambledon Hill, but no Alpine axe has ever been retrieved from a stratified location in a British enclosure. A broken jade axe came from the surface of the High Peak enclosure in Devon, and two examples have come from fields near Hambledon Hill (Jones, Bishop, and Wooley 1977: 288; Murray 1994: 99; Sheridan et al. 2010: 24). However, it may not be entirely irrelevant to note that the latter site has revealed traces of Mesolithic as well as Neolithic activity, although admittedly dating to rather early in the period (Allen and Gardiner 2002: 144). The importance of the location evidently predated the construction of the monument. The majority of British jade axes have occurred as single stray finds, often not in localities showing any other trace of Neolithic occupation (Clarke 1968: 185; Campbell Smith 1972: 410). Some, however, have been found in pairs, suggesting deliberate deposition in significant places, perhaps connected with distinctive topographic features (Murray 1994: 102). Such a situation recalls continental practice, as at Petit Rohu near Porh Fetan in Brittany, where two pairs of jadeite axeheads were found, set blade-upwards and back-to-back in gravelly silt on a beach (Cassen et al. 2008). This location had formerly been a marshy area behind a dune system. In Britain, too, an appreciable number of jade axes have been found in watery locations, such as in rivers, or on their banks (Schofield 1987: 483; Sheridan et al. 2011: 414). Three have come from the Thames, and seven from wet contexts in Scotland (Field and Wooley 1983: 142; Murray 1994: 102). One chloromelanite axe was reputedly found in a canoe revealed during deep excavations in Glasgow (Campbell Smith 1963: 146). Of course, axes, maceheads, pottery vessels, and other items were deposited in rivers throughout the Neolithic, but it is important to remember that such practices had an earlier origin (Thomas 1999: 85; Bradley 2000: 56). As we saw in Chapter Six, artefacts, human remains, and animal bones were all deposited in rivers, bogs, and stream channels during the Mesolithic.

Of the two jade axes that have been encountered in secure archaeological contexts in Britain, the first to be found was a fragment only 5 by 4 centimetres in extent, from the chambered tomb of Cairnholy I in Dumfries and Galloway (Piggott and Powell 1949: 121). This piece had already been old when it was deposited, on the paved floor in the entrance to the antechamber. The excavators of the monument, Stuart Piggott and Terence Powell, suggested that the axe might have been brought to south-west Scotland from Brittany, along a trade route running up the Irish Sea (1949: 137). It is probable that like the examples from Douglas Castle, Pitreavie, Dunfermline, and Inverness, the Cairnholy axe had been deliberately broken (Murray 1994: 102; Sheridan et al. 2011: 414). In some cases this purposeful destruction might have represented part of the means by which the artefact was taken out of circulation. However, the presence of the axe fragment in a significant location at Cairnholy indicates that this was not

necessarily the case. As John Chapman (2000: 37) suggests, the fragmentation of artefacts can be a means by which connections are established between persons and groups, through a process that he describes as 'enchainment'. Where parts of a single object are dispersed amongst a number of different people, tangible evidence exists of their enduring association. Objects of stone can be particularly well suited to this kind of practice, for if the material is glossy or iridescent it can be taken to embody both supernatural qualities and human relationships (Taçon 1991: 198). Amongst the Maori for instance, nephrite axes evoked the authority of deities and ancestors, and were consequentially used for the initial stages of the construction of canoes and houses (Weiner 1992: 58). It is plausible that fragmented jade axes were used to articulate relationships and alliances in prehistoric Britain because they were believed to manifest some form of spiritual force or essence.

In the wake of the Cairnholy discovery, attempts were made to link jade axes with the builders of Scottish long cairns (Stewart 1958: 76), but as Murray points out, they are scarce in the core area of Clyde tombs in Arran, Bute, and Argyll (1994: 100). Indeed, the condition of the Cairnholy fragment argues that it was considerably older than the cairn, which presumably dates to some time between the thirty-eighth and the thirty-sixth centuries BC. Sherds from a Carinated Bowl vessel were recovered from the surface of the forecourt of the tomb (Piggott and Powell 1949: 118–19), but these were not directly associated with the axe fragment, and provide only a general indication that the monument was probably constructed before the thirty-sixth century BC. The other British axe from a secure context, from the Sweet Track in Somerset, was also very old by the time that it was deposited. As we saw in Chapter Seven, the Sweet Track was constructed in 3807–6 BC, yet the axe found hidden beneath a board beside the trackway was similar to examples in use in the Morbihan at a much earlier date (Pétrequin et al. 1997: 145). According to Pétrequin and colleagues, it was probably manufactured at some time between 4500 and 4200 BC, and its highly polished condition suggests the earlier part of that range (2008: 269; Sheridan et al. 2010: 24). If the Sweet Track axe was between 400 and 700 years old when it was placed in the bog, it is remarkable that it had apparently never been used, and that it had probably not been hafted either (Coles et al. 1974: 216). In this respect it recalls a number of large 'ceremonial' flint axes from the northern Netherlands which were also unhafted, and which bore faint traces of having been wrapped and unwrapped on numerous occasions (Wentink 2008: 156). It seems likely that such objects were not tools at all, but primarily symbols or tokens that were displayed at special events. We have seen already that Alpine jade axes were ceasing to circulate in northern Europe by 4000 BC, the approximate date of the start of the Neolithic in south-east England, and earlier than the first Neolithic in Somerset. Not only the 'Glastonbury' style axe from the Sweet Track, but most of the jade axes found in Britain were already ancient by this time. Axes similar to the Altenstadt/Greenlaw style which predominates in the north of Britain were deposited at the Mané-er-Hroëk around 4500 BC, for instance. It is equally striking that axes of the Puy type, which was apparently the latest form to be distributed into northern Europe, are rather scarce in Britain (Pétrequin et al. 2008: 272). In other words, the axes that found their way to Britain were largely ones that had been made some time *before* the Neolithic began, while axes that could conceivably be

contemporary with the primary Neolithic are not common. There are a number of ways in which one could explain this pattern.

Alison Sheridan's view is that

the various types of Alpine stone axehead found had been made several centuries before their date of deposition. They must therefore have been old when they got here . . . it is tempting to view these beautiful objects as the ancient treasured possessions of incoming communities. (Sheridan 2007b: 25)

Further, Sheridan et al. argue that

There is no evidence for contact between the late Mesolithic communities of southern England and their cross-Channel neighbours (most of whom were already farming during the second half of the fifth millennium) and it seems likely . . . that the Breamore axehead was brought over from Normandy or northern Brittany as part of the process of Neolithization of south-west England, by a migrant farming community. (2010: 25)

This is a slightly circular argument, for as we have already observed, jade axes are precisely the form that evidence of fifth millennium BC cross-Channel contact should be expected to take. In southern Scandinavia, for instance, there is precious little indication of pre-Neolithic interaction with central Europe aside from the exchanged stone artefacts. Moreover, the argument actually *contradicts* Pétrequin's evidence that axes were not retained in use for long periods on the continent. Why should the communities who colonized Britain also be the only ones who chose to retain their ancient axes, when other groups were deliberately removing theirs from circulation? Nor are jade axes particularly common along the continental coastlines facing Britain, where these putative migrants presumably embarked. Simply because some of the British jade axes were antiquated when they were *deposited*, it does *not* follow that they were already old when they crossed the Channel. Moreover, if migrant groups set out to colonize the north-west European archipelago from coastal France, carrying their inherited jade axes, why are these axes numerous in England and Scotland, but scarce in Ireland? It is difficult to see why groups who were headed for Britain should be equipped with axes, while those who arrived in Ireland should lack them. The differential spatial distribution would seem to be more consistent with cross-Channel exchange than population movement.

Rather than representing the heirlooms of migrating continental communities, economy of hypothesis suggests that jade axes were acquired by Mesolithic Britons from the middle of the fifth millennium BC onwards, in maritime exchange transactions. As we have already argued, in the process of crossing the sea the axes would have undergone a value transformation, and would have entered a Mesolithic cultural system, in which they would have been understood and treated in different ways from on the continent. While Neolithic French and German groups deposited or destroyed their axes relatively promptly, in Britain jade artefacts were rarer, and some of them seem to have been curated for longer. The same may have been the case in Denmark, where local *copies* of Alpine axes were deposited in Neolithic contexts, suggesting that their jade artefacts on which they were modelled may have remained in circulation for centuries (Klassen pers. comm.). While it is entirely possible that a jade axe will eventually be recovered

from a late Mesolithic context in Britain (although the scarcity of closed late Mesolithic contexts of *any* kind reduces this probability), it seems that some were only taken out of circulation at the point when axes began to be made of stone from insular quarries such as that at Great Langdale, in the earlier fourth millennium BC (Bradley and Edmonds 1993: ch. 6). While some jade axes such as that discovered at the Sweet Track had been kept in pristine condition, others like the Cairnholly axe had been consciously broken and the fragments dispersed by this time.

In discussing the route by which Alpine axes arrived in Britain, Pétrequin et al. (2008: 275) discuss the relative merits of Brittany, the Channel Islands, Normandy, the Pas-de-Calais, and the Rhine as points of departure. If the axes circulated as highly ranked prestige goods, the likelihood is that they will have been involved in numerous person-to-person exchanges, and even examples of the same style from the same quarry need not have followed the same route from the Alps to Britain. It may be that the axes in southern Britain came predominantly from Normandy and Brittany, and those in eastern England and Scotland travelled through the Paris Basin and the Pas-de-Calais, but the overall pattern may have been much more complex. Pétrequin et al. dismiss the possibility that any British axes had come through Germany on two grounds, both of which appear to be open to question. In the first place, they point out that although there are concentrations of axes in north-west Germany, there are few in the Dutch/Belgian coastal zone. Yet of course, the mere fact that few axes were deposited in a particular area is no indication that axes did not *pass through* that area in the course of distribution. Secondly, they point to the association of one Altenstadt and one Durrington axe at Cunzierton Farm in the Scottish Borders, and argue that although both of these types are found in Germany, their distributions are mutually exclusive. Therefore, these axes cannot have come from the Rhine (Pétrequin et al. 2008: 272). However, where two axes are found deposited together, it need not be the case that they have arrived at this particular location by the same route. Especially if they had been in circulation for an appreciable period by the time of deposition, they are likely to have quite different biographies, and may only have been brought together at the moment of burial. This much is suggested by several of the pairs of axes recovered from Scotland, which are often made of contrasting raw materials, and thus being of different origin as well as being different in style (Campbell Smith 1963: 168–9). They need not, then, have arrived in Britain at the same time or by the same route.

It is therefore interesting that potentially the earliest jade axes in Britain occur preferentially in southern and south-west England: the Bernon/Bégude axe from Breamore in Hampshire (Fig. 8.7) and the Tumiace axe from High Peak for instance, as well as the Sweet Track axe (Sheridan et al. 2010: 24). This might relate to the first contact with Neolithic communities in Normandy and Brittany in the mid-fifth millennium BC. These axes, appropriately enough, are of Carnacéen type. Pétrequin and colleagues object that these axes are unlikely to have been introduced to Britain before 4300–4200 BC, since the other Breton axe types and the stone rings of Villeneuve-Saint-Germain style are absent (2008: 270). Yet the floruit of VSG was in the period 4900–4700 BC, and stone rings were by no means as numerous as axes by the succeeding Castellar phase, while these objects may not have had the same degree of value or meaning as axes in the insular Mesolithic



Fig. 8.7. Bernon/Bégude style jadeitite axe from Breamore, Hampshire (photo: David Dawson, with the kind permission of the Wiltshire Heritage Museum, Devizes)

context. Further, the overall numbers of Breton axes in Britain are very small. There is no reason why all of the styles of axes in use in Brittany in the mid-fifth millennium should be represented in this sample. Larger numbers of jade axes, including those of 'northern' types such as Altenstadt and Greenlaw, with more easterly distributions, probably entered Britain following the intensification of cross-Channel relations in the later fifth millennium, with the establishment of Neolithic communities on the coast of north-east France, Belgium, and Holland. On a more speculative note, it is interesting that pecked and ground stone axes of indigenous manufacture began to be made in south-west Wales in the Later Mesolithic. Although it is entirely possible that these developed spontaneously, it is striking that some effort was expended in fashioning a splayed or flanged blade on axes made on beach pebbles, which could arguably echo the form of some of the earlier jade axes (David and Walker 2004: 325–7). This may be another indication that indigenous people in Britain had become familiar with jade axes during the fifth millennium BC.

On balance then, it is possible that jade axes arrived in Britain through a series of exchange transactions conducted along the north-west seaboard of continental Europe, during the period between 4500 and 4000 BC. These visually striking artefacts would have been valued in their own right, but their significance will have been immeasurably increased by their having been made from materials quarried in places that were only known from travellers' tales, and having been brought across the sea, in voyages that would have been perceived as both physically and spiritually perilous. Jade axes would have been unlike anything that people in Britain had ever seen. With their smooth, shiny surfaces, they would probably have been recognized as highly attractive, but they might also have been understood as manifesting powers of various kinds. Most importantly, by passing from hand to hand they maintained connections between people, and

established new relationships and alliances. In particular, they represented tangible evidence of affiliation with powerful societies located across the sea, who would be rumoured to have access to strange animals and magical powers. As physical symbols of these relationships, jade axes would have enhanced the social position of those who could acquire them. But we should remember that these relationships would also have been to the advantage of continental communities, who will have been anxious to acquire clients, marriage partners, labour, and materials from Britain. This is why they will have allowed items of such enormous value and symbolic power to pass out of their hands. It was because these artefacts embodied connections with external powers that they could ignite the slow-burning process in Britain by which a Mesolithic social order based upon sharing could be eclipsed, in a way that the exchange of insular goods and materials could not. Jade axes were a physical token of the potential of change to come, change that some would have wished to hasten, but which others managed to resist for generations. The circulation of jade axes strengthened the channels of communication that eventually enabled plants, animals, artefacts, people, and skills to pass back and forth between Britain and the continent at the start of the fourth millennium BC. That is to say, the exchange of Alpine jade axes helped to create the conditions under which the whole complex of Neolithic practices became established in Britain.

Architecture: Halls and Houses

BUILDING AND DWELLING

We have already discussed the complicated relationship between sedentism and agriculture in general terms, but in the British context the place of domestic dwellings in the Early Neolithic is especially problematic. In recent years, it has been argued that house and home can serve as a metaphor for the domestication of both society and the wider world, and that consequentially the emergence of domestic architecture is all but a precondition for the cultivation of plants and the taming of animals (Hodder 1990: 41). In one influential version of this argument, it is suggested that the change from hunting and gathering to farming coincides with one from 'open' to 'divided' forms of society, in which the attention that people pay to one another is focused and segmented by architectural space (Wilson 1988: 57). Divided societies are ones in which roles and relationships are more precisely defined, and communities are more firmly bounded. These closely delimited social units are likely to interact with each other in both positive and negative ways. They may enter into reciprocal arrangements to provide aid and support, they may exchange gifts and marriage partners, and they may compete through feasting or warfare (Wilson 1988: 84). It is the emergence of a co-resident group occupying a distinct architectural domain that enables both hospitality and hostility to be expressed in these ways.

However, this perspective conflicts with another, equally important point of view. This is grounded in the insight that architecture is not simply a set of inert structural forms, which provide the stage setting for social life. Architecture should not be separated from the set of practices that brings lived spaces into being (McFadyen 2008b: 308). In the contemporary Western world, the dominant assumption is that buildings are first designed in the abstract, and then constructed from a set of plans, before they are made available to be lived in. However, this may be a historical peculiarity of our time, and the more normal pattern is for building to simply emerge out of the flow of everyday social existence, and from the perceived requirements of a particular group of people at a specific moment. People do not first build so that they can inhabit the world; their continuous building activity is an aspect of their inhabitation (Heidegger 1993: 347). One effect of this building is that it tends to bring hitherto unrecognized or unacknowledged realities into focus. By choosing to occupy the same house, a couple may acknowledge their relationship; when a younger generation moves out of a house, the reality that domestic relations have become intolerable is openly recognized.

Buildings, of various kinds, disclose states of affairs by opening up spaces in which particular kinds of dwelling and interaction can take place (Heidegger 1993: 361).

This second point of view has come to be described the 'dwelling perspective', and contends that the things that human beings create do not represent a separate cultural world, stretched over the surface of nature (Ingold 1995: 59). In these terms, it is senseless to talk of a 'built environment', since the environment that human beings inhabit is always one in which the materials that surround us have been fashioned or altered to a greater or lesser degree in the course of unending social activity (Ingold 1995: 76). There is no point at which people stand aside from the world in order to design it anew. As a result, this perspective enjoins us to consider building and architecture in terms of practices and processes, which continually reconfigure the circumstances in which social life takes place (McFadyen 2006b: 94; Pollard 2006b: 44). In pre-modern societies, the form that a structure finally takes on may be less significant than the activities through which that state is achieved, and paying too much attention to the morphology of buildings may lead us to miss the point. What follows will be principally informed by these arguments, while recognizing that some of the insights offered by the 'domestication' school are also worthy of consideration.

NEOLITHIC SETTLEMENT AND OCCUPATION IN BRITAIN AND IRELAND

Since the identification of causewayed enclosures as special-purpose sites used for gathering, exchange, and feasting rather than nucleated settlements, the comparative lack of Early Neolithic dwellings has been a nagging problem for prehistorians. Field, Matthews, and Smith (1964: 367) argued that 'houses were as a rule constructed in such a way as to leave no permanent or recognizable traces in the ground', and went on to suggest that Neolithic pits could be used as a proxy indicator of settlement locations. On this basis, they hypothesized that a sedentary horticultural regime had dominated the lowland zone south and east of the Jurassic Ridge, while pastoralism had been practiced in the highlands. However, this argument rested on the belief that Neolithic pits had been used as grain stores, for which they were manifestly unsuited (Thomas 1999: 64). During the 1970s and 1980s large-scale surface collection began to be used as a strategy for identifying Neolithic settlements, although in practice these generally only recovered scatters of stone tools and waste held in the topsoil, associated at most with a few stake-holes at the subsoil level. Various explanations were offered for this state of affairs. Potentially, the truncation of subsoil surfaces by historic and modern ploughing might have destroyed the traces of occupation sites, transferring the more durable artefacts from negative features to the ploughsoil (Holgate 1988: 105). Yet this would require that Neolithic domestic structures must have been appreciably more flimsy than Bronze Age and Iron Age houses, which survive in large numbers despite having been equally impacted by Roman and post-Roman ploughing. In fairness, many of the known structures that seemed to represent Neolithic dwellings were ephemeral and amorphous, such as those at Haldon

(Willock 1936: 249), Little Paxton (Rudd 1968: 9), and Clegyr Boia (Williams 1952: 26). It was also proposed that Neolithic settlements were masked by colluvium, or that archaeological investigation had been focused in the wrong areas of the landscape to encounter these sites (Barclay 2003: 71). However, a final suggestion was that Neolithic occupation might have been transient and informal, perhaps leaving little in the way of material remains. If this were the case, an 'offsite' approach to settlement patterns might be more productive, comparable with investigations focused on earlier periods of prehistory (Bradley 1987: 182).

This argument chimed with a growing conviction that Neolithic subsistence practice might not have consisted of the kind of sedentary mixed farming that characterized later prehistory (Entwistle and Grant 1989: 204). If cereal cultivation had been only one of a number of forms of food production and gathering that had been undertaken during the Neolithic, a variety of different patterns of residence and of duration of occupation might need to be imagined (Whittle 1997: 21; Pollard 2000b: 364). The Neolithic dwelling structures that archaeologists might encounter could be very diverse, and unrelated to those of the Bronze and Iron Ages, while their investigation would require a consideration of process rather than simply 'finding houses' (Pollard 1999: 77; Gibson 2003: 138). It had long been speculated that temporary or seasonal activity might have characterized settlement practices at some point during the Neolithic (McInnes 1971: 126). Now it began to be argued that pits represented not storage facilities, but the formal burial of material generated during episodes of temporary occupation, by communities engaged in cyclical patterns of mobility. At some large sites in eastern England, blank spaces within dense clusters of pits might have betrayed the former locations of ephemeral structures (Garrow, Beadmore, and Knight 2005: 156; Pollard 2006b: 42).

None the less, the belief remained in some quarters that a permanent settlement, occupied by at least a part of a community for the whole of the year, should be the norm throughout the whole of prehistory from the introduction of agriculture onwards (Rowley-Conwy 2003a: 115). According to this view, settlement mobility amongst non-hunter-gatherers would only be found where slash-and-burn horticulture was being practiced, and this would only be the case in the most marginal of environments. The gradual appearance of a small number of substantial timber buildings of early Neolithic date appeared to provide support for this view. These might be described as 'houses', but most of the British examples are large enough to warrant the term 'hall'. At Padholme Road, Fengate, for instance, a rectangular structure defined by four slots, 8.5 by 7 metres in extent, was associated with Carinated Bowl pottery and a flint sickle (Pryor 1974: 8). The severely eroded remains of another probable building with a tripartite structure had been revealed during excavations in advance of development at Llandegai in North Wales during the 1960s (Lynch 1989: 2). More striking was the discovery of a massive timber hall, 24 metres long, at Balbridie in Grampian region (Ralston 1982: 239). Balbridie was originally compared with the Dark Age hall at Doon Hill (whose earliest phase may itself be Neolithic), and its association with Neolithic pottery provoked surprise given that its form was so distinct from even continental Neolithic buildings (Fig. 9.1). In Ireland, Early Neolithic timber houses such as those at Ballyglass (O'Nuallain 1972: 54) and Balynagilly (ApSimon 1976: 19) were comparable to these British examples, although considerably smaller in size than Balbridie. The

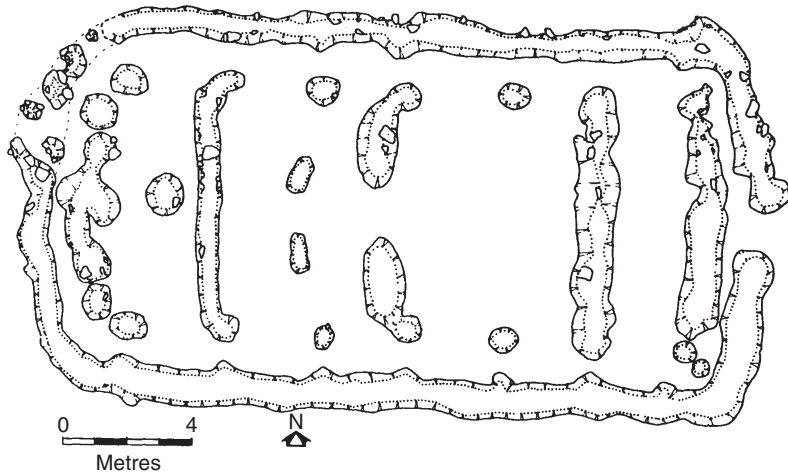


Fig. 9.1. The Neolithic timber hall at Balbridie, Grampian (from Fairweather and Ralston 1993, with the kind permission of Ian Ralston and *Antiquity*)

rapid expansion of infrastructure in Ireland connected with the economic boom of the 1990s and the first years of the new millennium resulted in the discovery of large numbers of Neolithic houses. By 2010, eighty such buildings were known from fifty different sites (Smyth 2010: 4). Most of these were only 6 to 8 metres long, yet their construction was exceedingly robust, with substantial oak walls set in deeply cut foundation trenches (Smyth 2010: 7). These trenches often received deliberate deposits of artefacts, while lesser wall slots sometimes divided the interior into a series of lateral spaces. Throughout much of Ireland the form of these buildings is strikingly similar, and it contrasts with much less substantial circular structures which seem to both pre- and post-date them (Grogan 2004: 103). The distinctiveness of the Irish Early Neolithic houses, their monumental structure, and their association with quantities of food remains, have led to the suggestion that they might have been feasting halls (Cross 2003: 196). However, their use for gatherings and collective consumption is not incompatible with their identification as domestic dwellings (Smyth 2010: 8). This interpretation is perhaps supported by the evidence of rebuilding or repair at a few sites, and the presence of ancillary structures such as yards, shelters, and working hollows at a number of others (Grogan 2004: 111).

The explosion in the numbers of known Neolithic houses in Ireland was paralleled by the discovery of numerous light posthole structures in Sweden and Denmark (Larsson and Rzepecki 2003: 7). In England, Scotland, and Wales more Early Neolithic buildings were found, but they were far fewer in number and generally much larger in scale than the Irish examples. The comparatively low numbers of discoveries could not be attributed to the intensity of archaeological investigation, since the 1990s and 2000s followed the introduction of developer funding for rescue archaeology, and coincided with a house-price led consumer boom, in which enormous numbers of field interventions took place. In the light of new finds of large timber halls such as those at Claish near Stirling, White Horse Stone in Kent, Yarnton in Oxfordshire, and Parc Bryn Cegin in North

Wales, a series of different positions on the phenomenon began to be defined. In one view, the possibility that the halls had been lived in at least seasonally was acknowledged, but their identification as farmhouses or as the default mode of Early Neolithic settlement was rejected, and their principal role was conjectured to have been as a gathering place or centre of coordination for a more dispersed community (Brophy 2007: 90). Yet the notion that they represented the normal dwelling-places of an internally homogeneous agrarian society was also still entertained:

Balbridie is . . . after all, a permanent-looking timber hall of serious dimensions, filled with cultivated cereals . . . in Britain, Balbridie is the tip of the iceberg.

(Rowley-Conwy 2002: 24)

In terms of the proliferation of these buildings, this claim now appears to have been premature. While more buildings probably do remain to be found, it seems unlikely that these will be in very large numbers (Brophy 2007: 79). Rowley-Conwy's argument also failed to take account of the dating of rectangular timber buildings in both Britain and Ireland, for in both areas it was soon clear that they were not dispersed evenly through the millennium and a half of the Neolithic. On the contrary, their recurring and exclusive association with Carinated Bowl pottery identified them as a feature of the first 300 or 400 hundred years of the period (Pryor 1974: 31; Smyth 2006: 240). The implications of this chronology were addressed by Sheridan, who presented a rather different interpretation:

The fact that these largest structures are amongst the earliest CB structures to have been built suggests that they were designed as 'pioneer' settlement sites, to house extended families who had just arrived from the continent . . . once the initial roots had been established . . . there was less need for the pioneering farming groups to live together. Smaller families felt confident enough to establish smaller (but still substantial) houses of their own. (Sheridan 2008: 3)

This argument has the virtue of offering an explanation for the short-lived character of the phenomenon of timber halls in Britain. But the problem becomes more acute when the results of Bayesian modelling of the dates for halls and houses are taken into account. In Ireland, all of the Neolithic rectangular timber houses that have been dated are calculated to have been constructed in the interval between 3715 and 3680 cal. bc (at 68 per cent confidence), while their use probably spanned a period of between 55 and 95 years (Whittle, Healy, and Bayliss 2011: 598). In other words, the practice of building and occupying robust wooden structures lasted for at most two or three generations, across the whole of Ireland. Smyth (2010: 5) suggests that timber buildings were effectively replaced by court tombs, which served to integrate progressively larger and more dispersed communities. This is a theme to which we will return.

It is instructive to compare Whittle, Healy, and Bayliss's estimate for the construction of timber houses with their proposed date for the inception of the Irish Neolithic. Two models are offered for this: the first (3730–3695 cal. bc at 68 per cent confidence) includes the numerous dates for the houses themselves, while the second (3815–3760 cal. bc at 68 per cent confidence) excludes these and concentrates on other kinds of contexts (Whittle, Healy, and Bayliss 2011: 662). In the former scenario the construction of timber buildings was virtually coincident

with the start of the Irish Neolithic, while in the latter it took place a generation or two later. Either way, house-building was an aspect of the very earliest stages of the Neolithic. As we will see later in this chapter, there are significant differences between the timber buildings of Ireland and those of Britain, but the chronological relationship is similar throughout: in each region, wooden structures were built shortly after the beginning of the Neolithic. The Neolithic in the south-east of England probably began between 4145 and 4005 cal. bc while the timber hall of White Horse Stone was probably built in the period 4065 to 3940 cal. bc. The Neolithic of the Upper Thames probably began 3860–3795 cal. bc, and the hall at Yarnton was probably built 4000–3805 cal. bc, with one of the smaller structures at Horton dating to 3800–3640 cal. bc (Chaffey and Brook 2011). The Neolithic in the Scottish lowlands probably began 3815–3780 cal. bc, and the hall at Claish was probably built 3720–3640 cal. bc. The Neolithic of north-east Scotland probably began 3865–3780 cal. bc; Warren Field was probably built 3810–3760 cal. bc and Balbridie in 3810–3590 cal. bc. Finally, the beginning of the Neolithic in South Wales is estimated at 3725–3675 cal. bc, and the construction of Parc Bryn Cegin (admittedly in North Wales) at 3690–3610 cal. bc (all at 68 per cent confidence).

In each region, then, timber buildings appear to have been built within a generation or two of the onset of the Neolithic. While in some cases these structures were in use for some time (50–300 years in the case of White Horse Stone; 40–110 years for Parc Bryn Cegin: Kenney 2008: 29; Booth et al. 2011: 71), none of them seem to have been replaced once they were destroyed or abandoned. So it is arguable that timber halls were not an enduring characteristic of early Neolithic societies in Britain. Instead, hall-building seems to have been a *process* that communities went through at the start of the Neolithic. We might want go so far as to say that hall-building was part of *becoming Neolithic*, almost akin to a rite of passage. But why should this have been the case? The answer may lie in considering the *house* as a social as much as a structural phenomenon. In this respect, we will follow both Gabriel Cooney (2000a: 52) and Jessica Smyth (2010: 2) in identifying ‘house societies’ in the Neolithic, although coming to rather different conclusions than either.

HOUSE SOCIETIES

The idea of the ‘house’ as a distinctive form of social organization was first developed by Claude Lévi-Strauss as a means of overcoming a long-standing difficulty in accounting for the social formation of the Kwakiutl of British Columbia. Franz Boas had noted that the Kwakiutl appeared to combine aspects of matrilineal and patrilineal systems of descent, in that property could pass down either the male or the female line (Lévi-Strauss 1982: 164). Material items such as headdresses, masks, and ceremonial bowls, hunting lands and fishing sites, and immaterial valuables such as names, titles, rituals, dances, and membership of secret societies all descended between the generations within the house. Indeed, it often appeared as if Kwakiutl houses themselves were entities that entered into exchange or competition with one another (Gillespie 2000: 22). Lévi-Strauss argued that the Kwakiutl *numaym* or corporate group was composed of a series of

ranked positions or offices, so that the social structure precedes and takes priority over the person (Lévi-Strauss 1982: 169). A similar problem beset the study of the California Yurok, whom Kroeber had claimed to have no social organization at all. Yurok communities appeared to consist of a charismatic chief and their followers, who made up a household which constituted a collective subject of rights and duties (Lévi-Strauss 1982: 172). Lévi-Strauss' insight in relation to the Kwakiutl and the Yurok was to note that in many languages the word 'house' can refer both to a physical dwelling structure and to a social group, usually composed of kin, who claim membership of it (Waterson 1990: 142). Lévi-Strauss maintained that 'house societies' (*sociétés à maison*) are a peculiarly widespread form of organization, citing examples in Medieval Europe, Feudal Japan, and Ancient Greece. However, it is crucial to point out that not all societies that have houses are house societies (Gillespie 2007: 25).

For Lévi-Strauss, a house is a corporate social group that holds an *estate* of material and immaterial wealth. 'Estate' is perhaps an unfortunate term however, as it implies landed property, and it might be better to use a less loaded word, such as 'vestiture'. The group is reproduced by transmitting its name, goods, and titles across the generations, between members of the community who may be real or fictive kin. This transmission achieves its legitimacy through an ideology of kinship or affinity (Lévi-Strauss 1982: 174). From an archaeological point of view the critical feature of house societies is that their continuity is vested in material things: often the dwelling structure itself, but also the valuable goods that pass between the generations, signifying the unbroken existence of the community (Joyce 2000: 190). House societies therefore privilege the enduring identity of the collectivity over the transient lives of their members (Helms 2007: 502). Indeed, since the house itself rather than any of its members is the holder of property, Lévi-Strauss claims that it represents a 'moral person'. Houses are effectively social actors with rights and obligations, which may compete against each other or cooperate (Howell 1995: 166; Beck 2007: 6). Moreover, dwellings and artefacts do not simply reflect the established identities of house communities. The collective labour of construction can represent 'house-building' in more than one sense: it can bring a new community into being, it can legitimize a marriage, it can solidify the authority of a new leader, and it can render a social group and its history memorable (Carsten and Hugh-Jones 1995: 3; Hugh-Jones 1995: 228; Joyce 2000: 194). The establishment of the house is arguably a means by which social reality is misrepresented, or at least transformed. The lines of descent through which the house property is devolved may effectively be imaginary, and the descent from a common ancestor that the members claim may be fictive (Sissons 2010: 377). Kinship and consanguinity may really be no more than a metaphor for collective identity, and a means for securing its continuity, while the real basis for the existence of the community is shared investment in the material and immaterial wealth of the house: the estate (Joyce 2000: 190).

Lévi-Strauss emphasizes that it is this character of the house as an imagined community whose material basis is concealed that enables it to stabilize and contain contradictory social forces (Lévi-Strauss 1982: 184; Sandstrom 2000: 67). House societies can combine alliance and descent, matriliney and patriliney, endogamy and exogamy, even though these may give rise to conflicting obligations and commitments (Carsten 1995: 106; Howell 1995: 149; Rivière 1995: 204).

Through its physical embodiment and its manifest endurance, the house creates an impression of unity and solidity, holding volatile elements in tension (Gillespie 2000b: 8). The durability of the house is embedded in material things, whose biographies often extend far beyond those of specific persons. As a result, a person's association with a house and its property often has the effect of insuring their remembrance over subsequent generations (Waterson 2000: 182). Both house structures and material wealth in the form of heirlooms constitute tangible evidence for the longevity and authenticity of the social group (Gillespie 2000b: 12). But both buildings and artefacts are more than signifiers of continuity: they are inhabited and manipulated in both everyday activities and ritual performances. Just as the songs, dances, names, and titles of the house have to be used in order to maintain them, the material inheritance of the house must be performed to achieve the reproduction of the group (Marshall 2000: 74).

As we have seen, Lévi-Strauss understood the house as an instrument for the maintenance of an estate or vestiture over time. In the course of this transmission, the continuity of the social group and its identity is secured (Carsten and Hugh-Jones 1995: 6; Beck 2007: 6). Yet while the property-holding entity is maintained, specific people may join and leave the community through marriage exchanges. The acquisition of marriage partners may also be a source of tension within the house, since it may result in the loss of wealth to other groups (Lea 1995: 224; McKinnon 2000: 161). In a sense, a house society can be imagined as a core of things to which a community of people adhere. It is composed of relations between people and things, not merely relations amongst people. In many cases it is the house itself which acts as the principal object that stabilizes and maintains the existence of the group. However, the 'house' of a house society need not always be a dwelling: it can be a men's house, a council house, a meeting house, or a head-hunter's lodge (Waterson 1990: 62; Lea 1995: 206). While in the contemporary western world houses are associated with domesticity and privacy, this may not be the case for house societies (Sissons 2010: 375). Houses may or may not be occupied at all, and the number of people in residence (permanently or temporarily) varies considerably. Iban ceremonial houses may stand empty and unused during much of the year, and their heavy construction contrasts with the light structures that people actually live in (Howell 1995: 160). Iban longhouse communities disperse seasonally, and Rotinese origin houses are dwelt in by a single family, who maintain the sacred heirlooms for the benefit of the rest of the clan (Waterson 1990: 46). Furthermore, the house as a social entity may be much larger than a household, and membership can be based on a variety of factors other than residence, such as claimed origin, involvement in labour processes, participation in ritual, or metaphysical commitments (Gillespie 2000b: 1).

In his original formulation of the concept, Lévi-Strauss sought to present *sociétés à maison* as a social type: a stage of social evolution between kin-based and class-based formations. Where access to wealth was increasingly divided, but political power was not able to express itself in an idiom that overstepped 'the old ties of blood', houses provided a means of presenting social asymmetry through the language of kinship and affinity (Lévi-Strauss 1982: 186). However, a number of authors have pointed out that houses seem to occur in very different societies, ranging from egalitarian communities such as the Iban to states, like that of Bali (Waterson 1995: 67). The connection with hierarchy is less direct than

Lévi-Strauss initially proposed, and more processual than classificatory: houses represent a resource that can be employed in the 'enterprises of the great', contributing to increased social inequality. More significant is the connection between houses and societies undergoing significant transformation, whether in terms of economy, culture, or identity (Carsten and Hugh-Jones 1995: 10; Waterson 1995: 54; Sissons 2010: 372). Putting this another way, houses are less the hallmark of a specific kind of society, and more the symptom of a process that can overtake societies that are quite different in character. As Gillespie argues, 'there are conditions under which entire societies might transform themselves into *sociétés à maisons*, only later to become less "housey"' (2007: 30). Beck (2007: 16) proposes that the formation of house communities may represent a solution to structural crises, albeit in some cases a temporary one. Houses can come into being and fade away, both because they thrive on competition and because they are a *dynamic* and unstable social arrangement, requiring continual investment in performance in order to maintain their existence (Marshall 2000: 102). For example: in the case of the Kwakiutl, houses first developed when contact with European trade systems introduced new goods and new exchange relationships, altering the character of property. Similarly, in New Zealand socio-economic changes related to colonialism produced the context in which Maori leaders sought to stabilize new social groups by constructing *marae* or meeting houses during the period 1880–1950 (Sissons 2010: 383). The recurring factors are rapid change, the transformation of property relations, and the emergence of more bounded and competitive social formations.

If houses are a means of establishing stable social units during times of rapid change, or even the means by which social change can be achieved, the emphasis on memory and the past within house societies is immediately comprehensible. As much as dwellings, houses may be origin-places or storehouses for heirlooms, while ancestors may be considered to literally inhabit them, or to manifest themselves in the form of artefacts or human remains (Waterson 1995: 54). Alternatively, the house itself may embody the life-force of a powerful ancestor, as in the case of the Maori *marae* (Sissons 2010: 372). Even where the house is a simple dwelling, the experience of conducting everyday tasks within a durable architecture gradually acquires the quality of bringing the past to mind, particularly if the building has been inhabited by successive generations. The same is true of objects that have been passed down within the house community, which serve as reminders of key episodes in the history of the group, such as marriages, alliances, and deaths (Gillespie 2000b: 12). In turn, the accumulated associations of the house lend weight to the events and performances that take place within them, as when Maori chiefs used meeting houses as the context for staking claims to descent from important ancestors (Sissons 2010: 384). Despite this, the entity that provides the enduring material focus for the house community need not be a building at all: it could be a fishing boat, a voyaging canoe, a set of regalia, or a shrine (Gillespie 2000a: 48). In a few cases, 'houses' can exist in the absence of any material structure at all, as with the Moken Sea nomads of Thailand (Waterson 1995: 50).

It is very common for tombs to substitute for houses, just as houses themselves may contain the remains of the dead (Bloch 1995: 71). Amongst house societies protracted funerary rites are common, with bodies being moved from one location

to another as they reach different stages of decomposition, and body parts being circulated amongst the living (Waterson 1990: 202). There is often a degree of overlap between houses, tombs, and shrines. Tombs and ossuaries may be built in ways that recall houses, while the presence of burials beneath the floors or skulls in niches may have the effect of sanctifying a building (Gillespie 2000b: 13; Kirch 2000: 103). Equally, the past homes of ancestors may themselves acquire sanctity over time, eventually becoming places of worship (Kirch 2000: 109). Like heirlooms, human bones are tangible traces of the past of the house community, and they may constitute a part of the house vestiture. Bones, especially long bones and skulls, are sometimes held to be sacred and to possess metaphysical qualities, such as the capacity for healing or causing misfortune. They may also be perceived as a store of vitality and fertility, and as such they may become involved in competition between houses, as the target of capture or wilful destruction by enemies (Beck 2007: 7). James Whitley (2002: 119) has cautioned against the over-use of the concepts of ancestors and ancestry in prehistoric archaeology, noting that not all deceased persons in non-western societies constitute ancestors. He is quite right to point out that these ideas have sometimes been over-generalized, resulting in rather generic interpretations of the past. However, it is important to recognize that the role of ancestors in house societies is a quite specific one. House ancestors are the people who founded a particular bounded social group, and from whom the members of that group claim descent, irrespective of their actual parentage (Helms 1998: 35). This form of ancestry is not connected with a specific mode of subsistence activity, so much as with the establishment and maintenance of collective claims on property.

Houses, then, are social groups whose material integument serves as a reminder of their origin and initiation, and as a store of value in which the members of the community are invested. Houses compete against one another, and their material wealth is at once the medium of their competition and the measure of their success (Waterson 1995: 58; Gillespie 2000: 13). Although the ethic of kinship binds the group together, in practice houses may be preoccupied with the recruitment of outsiders. In the north-west coast of North America, house groups absorbed people whose own communities had dissolved as a result of warfare or disease, for instance (Marshall 2000: 87). North-west coast houses were centres for production, distribution, reproduction, and learning. They were used for a variety of activities, ranging from ritual performances to food processing (Ames 1996: 178). Each house was headed by a chief, who claimed particular proximity to the founding house ancestor (Rosman and Rubel 1971: 136). While ethnographic parallels used in archaeology are rarely precise, it seems plausible that many of these features may apply to the earliest Neolithic communities in Britain, and their large timber halls.

THE MEANING OF THE HOUSE

Because in house societies dwellings, tombs, and temples provide the enduring physical core that crystallizes and sustains collective identity, as well as representing a focus of social memory, they are generally replete with symbolism and

meaning (Fox 1993: 145). Given that the construction of the building is coincident with the formation of the social group, the principal structural elements of the house and the event of their erection can take on the most profound significance. Thus for the Ilongot of Luzon the digging-in of the main house-posts is a singularly memorable happening; for the Iban the house-post must be the first part of the house to be set up; for the Minangkabau the house-post is the focus of the entire building (Ng 1993: 14; Sather 1993: 72). Groups such as the Rotinese treat such posts as 'ritual attractors', around which symbolic acts cluster (Fox 1993: 172). The principal timbers of the houses of the Nualu of Seram are considered sacred, and have individual names. The construction of a new house requires the taking of a human head, which is placed in the socket of the main house-post (Ellen 1986: 10). Similarly, the Nahuas of Veracruz place offerings in the postholes of the major structural beams of their houses (Sandstrom 2000: 67). Amongst many Austronesian societies the positioning of the house-post is compared with the planting of a tree, securing the life-force of the house to the earth. The wood from which the house is crafted, and the trees from which the wood is taken, are often understood as contributing to this power (Fox 1993: 157). Thus the substance of the house is anything but inert matter. The spiritual energy of the house may be reified as a house-spirit or guardian, who resides within the house-post, and requires propitiation (Waterson 1990: 123). The main uprights of the house can also be closely associated with particular members of the household: the men in the case of northwest Amazonia, the women amongst the Berbers of North Africa, ancestors in numerous cases (Bourdieu 1970: 157; Waterson 1990: 118; Hugh-Jones 1995: 228).

We have noted already that Lévi-Strauss describes the house as a 'moral person', since in relation to the holding of property and engaging in competition and cooperation it behaves as a social actor. It is thus unsurprising that the dwellings are often understood to be living organisms, and their spatial organization described in relation to the human body. The house may have a spiritual essence, and the materials used in its construction, the rituals performed inside, and the members of the house community all contribute to it (Carsten and Hugh-Jones 1995: 23). Often, the house is explicitly recognized as a person, as when the Pirá-paraná refer to the structure as 'Roofing Father' (Hugh-Jones 1979: 248). But it is equally possible for the house to operate on multiple levels of symbolism, as when Marcel Griaule describes the Dogon house as simultaneously constituting a person, the ancestors, and a microcosm of the entire universe (Griaule 1965: 94). Thus the house condenses and clarifies different arrays of symbols, while constructing equivalences between them. The division of space within the house may be based on the human body, and this is one of the ways in which the house as an institution overcomes internal conflicts and tensions, through the naturalization of asymmetries (Ellen 1986: 27; Carsten and Hugh-Jones 1995: 12). For instance, in Tanimbar the principal upright of the house is fashioned as a human figure with outstretched arms, representing a house ancestor. This figure, the *tavu*, contains a house altar above which human bones are placed. In an explicit way, the *tavu* expresses the connections between the house, its ancestral past, and its collective agency (McKinnon 2000: 161). Famously, Pierre Bourdieu (1970: 154) described the way in which the inhabitation of such densely symbolic spaces serves to reproduce values, practices, and cosmological understandings without

the need for explicit exegesis. But equally, the structuring of the house as a miniature universe and as a focus of spiritual energy promotes the belief that it forms an instrument through which the greater whole can be influenced (Hugh-Jones 1979: 235).

The principal means by which this is achieved is through house ritual. Ritual performance draws on the capacities of the house and seeks to achieve some efficacy in the wider world. But house rituals may be specifically concerned with life-crises affecting members of the community or the household as a whole, and they may have the effect of enhancing the corporate identity of the group through shared experience (Sather 1993: 108). This may mean that house rituals provide a powerful framework for the incorporation of outsiders as kin (Sandstrom 2000: 66). Equally, as these rituals are conducted within the space of the house, make use of heirlooms and inherited regalia, and invoke the presence of ancestors, they have the effect of drawing the past into the present, reinforcing the theme of continuity (Hugh-Jones 1996: 191). Amongst house societies, feasting and general hospitality are closely connected with ritual. The collective consumption of food is at once a means of enhancing household solidarity and a means of conspicuous consumption through which the house can enhance its prestige (Adams 2007: 357). Moreover, the feeding of the corporate group may be understood as a means of enhancing the life-force of the house, construed as a living being (Carsten and Hugh-Jones 1995: 42). This often means that the hearth takes on a particular importance as the heart of the house, and the place where food is transformed, just as the house as a whole is understood as transformative of its contents. Having addressed these general characteristics of house societies, we can now move on to consider the houses and halls of the earliest Neolithic.

HOUSES AND HALLS IN THE PRIMARY NEOLITHIC

The argument that I want to make is that the beginning of the Neolithic in Britain saw the emergence of house societies, and that the house provided a vehicle for transforming indigenous hunting and gathering communities resistant to accumulation into property-owning corporate groups. Such a change in social structure would have made it possible for domesticated plants and animals to be held in common by a bounded community, although it would not determine the subsistence regime practiced by any particular group. We have seen that hunters and gatherers generally only claim ownership of plants that have been harvested and animals that have been killed (Ingold 1981: 121). Domesticates, however, form part of the enduring wealth of a social group, even while they are in the process of growing and maturing. The formation of house societies would facilitate the accumulation of wealth and prestige on the part of coalescent communities, irrespective of whether cereals and livestock represented part of their estate. Gillespie (2007a: 29) emphasizes that the phenomenon of the house as a collectivity that coheres around a physical structure that survives over time and a body of goods transmitted between generations is one that can be borrowed from neighbouring regions, as often as it is generated independently. I suggest that the

construction of houses and halls at the beginning of the Neolithic was a mechanism by which such groups were brought into being, and their existence signalled and perpetuated. A closer look at these sites will help to substantiate these points.

At present, a little over a dozen substantially built rectangular timber structures of Early Neolithic date are known in England, Scotland, and Wales. The largest of these, 20 or 30 metres in length, form a distinct group concentrated for the most part in lowland Scotland: Balbridie, Claish, Lockerbie Academy, and Warren Field, as well as Yarnton in Oxfordshire. Slightly smaller buildings, more than 15 metres in length, include Lismore Fields I, Parc Cybi, and White Horse Stone (Fig. 9.2). Smaller still, at between 9 and 15 metres in length are structures such as Llandegai, Parc Bryn Cegin, Gorhambury, and Horton, and these overlap in size with the largest of the Irish houses (Fig. 9.3). The extraordinary massiveness of the Scottish halls has frequently been noted, and is compounded by the use of unnecessarily colossal timbers in their construction (Topping 1996: 160; Barclay, Brophy, and MacGregor 2002: 75). Given that entire families can occupy dwellings as small as 8 square metres in extent, even the very smallest British examples such as Fengate could have provided space for appreciable numbers of people (Pryor 1974: 34; Cutting 2006: 241). In Ireland, Neolithic houses are sometimes found in tight clusters of two or three. The British buildings are generally isolated (Lismore Fields I and II present a rare exception), although at Kingsmead Quarry, Hoton in Berkshire, four relatively small, dispersed buildings have been discovered, suggesting something rather more like the Irish pattern (Nichols 2013). In some cases pairs of structures are found within a kilometre of each other: White Horse Stone and the possible structure at Pilgrim's Way, Llandegai and Parc Bryn Cegin, Balbridie, and Warren Field. It is possible that in each case one building replaced the other, but given overlapping radiocarbon chronologies (at Warren Field and Balbridie, for instance) it is equally likely that they were in competition with each other. Obviously, this conforms with the expectation that house societies will be inherently competitive in character.

Many of the halls in Britain appear to have been built in locations that had not previously been intensively occupied, in contrast with the diverse Early Neolithic sites of other kinds that were discussed in Chapter Seven. Both Yarnton and White Horse Stone were set in small woodland clearances that had only recently been opened up, for example (Hey and Barclay 2007: 413). Warren Field is an interesting exception in this respect, located near to a pit-alignment of Mesolithic date, although there was little in the way of evidence for Mesolithic occupation in the immediate area (Murray, Murray, and Fraser 2009). Some of the halls seem to have been quite long-lived, especially the earliest ones to have been built. Thus White Horse Stone may have been in use for 300 years, and Yarnton for 200, while Balbridie was used for somewhere between 1 and 190 years. In contrast, Parc Bryn Cegin had a life of between 4 and 110 years, while Warren Field and Claish were each in use for 50 years or less, and the same may have been the case with Lockerbie (Murray, Murray, and Fraser 2009: 79). As Whittle, Healy, and Bayliss point out (2011: 840), these figures indicate that British timber halls sometimes had longer use-lives than *Linearbandkeramik* houses on the continent, which were usually abandoned after around 30 years. While there is a strong argument that LBK communities were themselves house societies (see Chapter Three), it is apparent that the theme of continuity across the generations expressed through

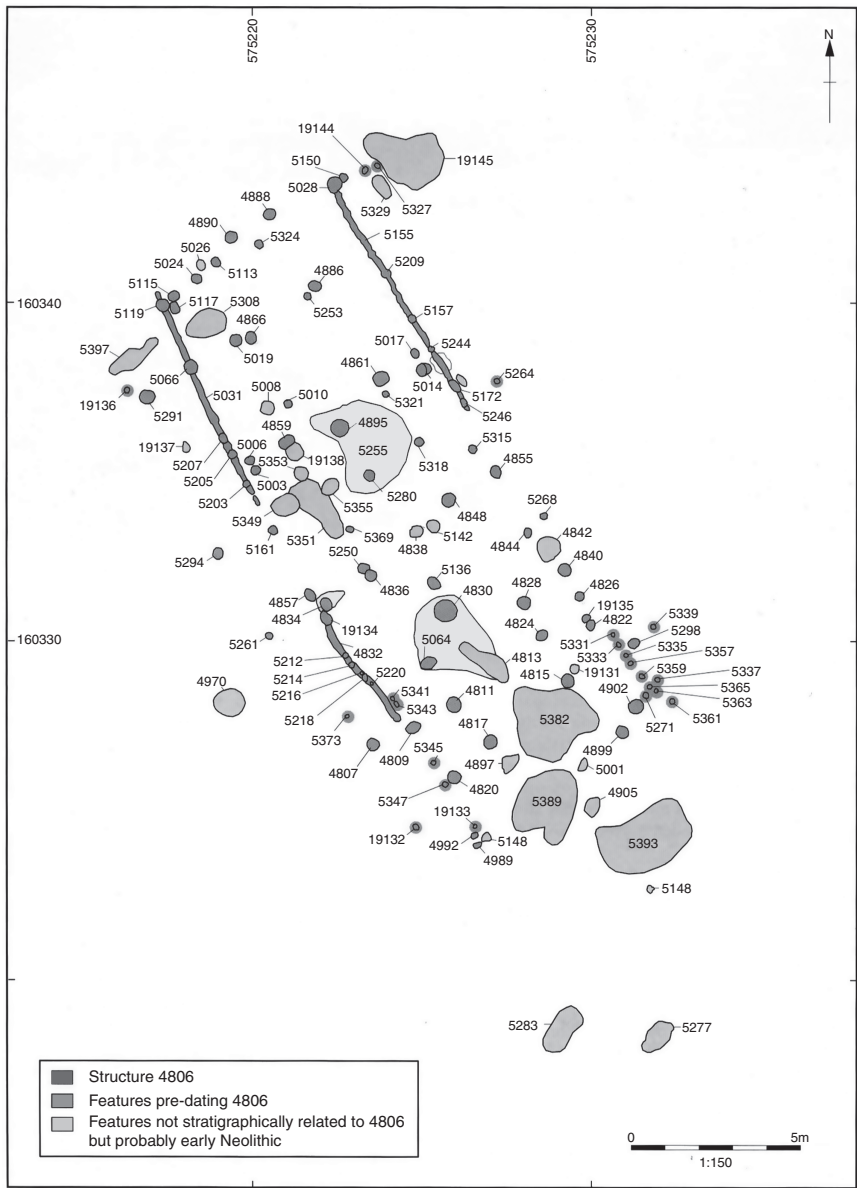


Fig. 9.2. White Horse Stone long hall, Structure 4806, Kent (from Booth et al. 2011, with permission © Oxford Wessex Archaeology)

the perseverance of a particular building was more pronounced in Britain, especially in the opening centuries of the Neolithic.

While Brophy (2007: 86) has drawn attention to the formal similarities between the Scottish halls and a group of later, unroofed structures (such as those at Littleour, Balfarg Riding School, and Carsie Mains), there seems little doubt that

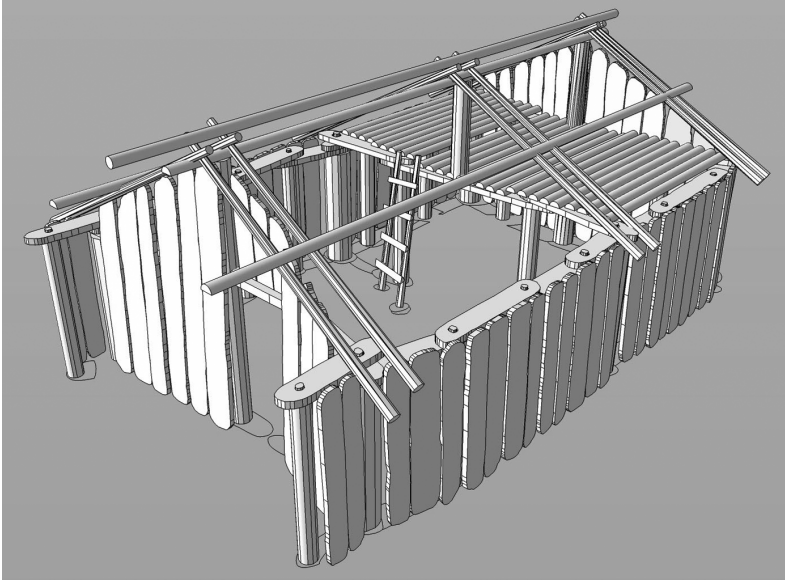


Fig. 9.3. Construction of the Neolithic building at Horton, Berkshire (image: Alistair Barclay © Wessex Archaeology)

the halls themselves were roofed buildings. At Claish, for instance, fragments of daub and charcoal from probable roofing materials were recovered (Barclay, Brophy, and MacGregor 2002: 98). The earliest known timber hall in Britain, at White Horse Stone in Kent, dates to the fortieth or forty-first century BC. It was a somewhat irregular rectangular structure approximately 18 metres in length, with three rows of posts running axially in the interior and walls defined by gullies. These were broken toward the centre of the building (Booth et al. 2011: 67). Entrance might have been through the sides, or at the south, where a series of smaller postholes appear to define a 'porch'. Some of the postholes in the northern part of the structure were paired, and this might indicate that an upper floor was present in part of the building, perhaps intended for storage. Two shallow hearths were identified within the building, but it is unclear whether they were contemporary with the use of the structure. Very small quantities of pottery, flint, animal bone, and plant remains were recovered from White Horse Stone, and it is conjectured that the hall was kept clean until it was abandoned, with waste materials being removed to middens elsewhere (Booth et al. 2011: 69). If we take White Horse Stone as a point of departure, it is evident that while there was diversity in scale and form, there was also a tendency for halls in Britain to become larger, more monumental, more structurally elaborate (positively baroque in the case of the Scottish halls), and more removed from any continental parallel as time progressed (see later in this chapter for further discussion of the relationship with continental European buildings). This suggests a process of internal development, and argues against the notion that the Scottish buildings in particular were the dwellings of migrant groups arriving from the continent. The forces



Fig. 9.4. The Neolithic hall at Yarnton, Oxfordshire (photo: Gill Hey)

driving this elaboration were presumably competitive emulation and prestige display.

The possible raised floor at White Horse Stone was repeated at Claish, Balbridie, and Warren Field; posts were also more densely concentrated at one end of the buildings at Yarnton, Llandegai and Parc Bryn Cegin (Barclay, Brophy, and MacGregor 2002: 124; Lynch and Musson 2004: 27; Kenney 2008: 21) (Fig. 9.4). This implies that the accumulation of stored foodstuffs or seed grain was a preoccupation for many of the groups that built these halls. Most of the halls have an essentially linear structure, entered through one of the short sides of the rectangular plan, and in some cases possessing a second entrance (or exit) in the opposite side. While White Horse Stone had little positive evidence for internal partitioning, the later buildings all seem to have been sub-divided to some extent. Warren Field, Claish, Llandegai, Balbridie, and perhaps Parc Bryn Cegin and Yarnton, all appear to have contained at least one comparatively large open space, located toward the principal entrance. In most cases this area was not directly visible from the entrance, being obscured by screens in the cases of Claish, Balbridie, and perhaps Yarnton, and by large post F30 at Warren Field (Murray, Murray, and Fraser 2009: 62). At Balbridie, Ralston (1982: 242) argues that there were two main internal spaces, the deeper, westernmost one being bisected by a line of uprights. If so, it is tempting to speculate that these might have represented gendered areas.

The majority of the British halls have a central passage, running along the axis of the building, flanked by lines of posts. At Llandegai and Parc Bryn Cegin these were the largest post-holes, and in both cases these are hints of lateral partitions dividing up the space on either side of the central aisle (Lynch and Musson 2004: 30). These partitions, creating a series of parallel zones that one would pass through on entering the building, are more clearly defined at Lismore Fields I in Derbyshire (Garton 1991: 13). At Warren Field and Lockerbie Academy the

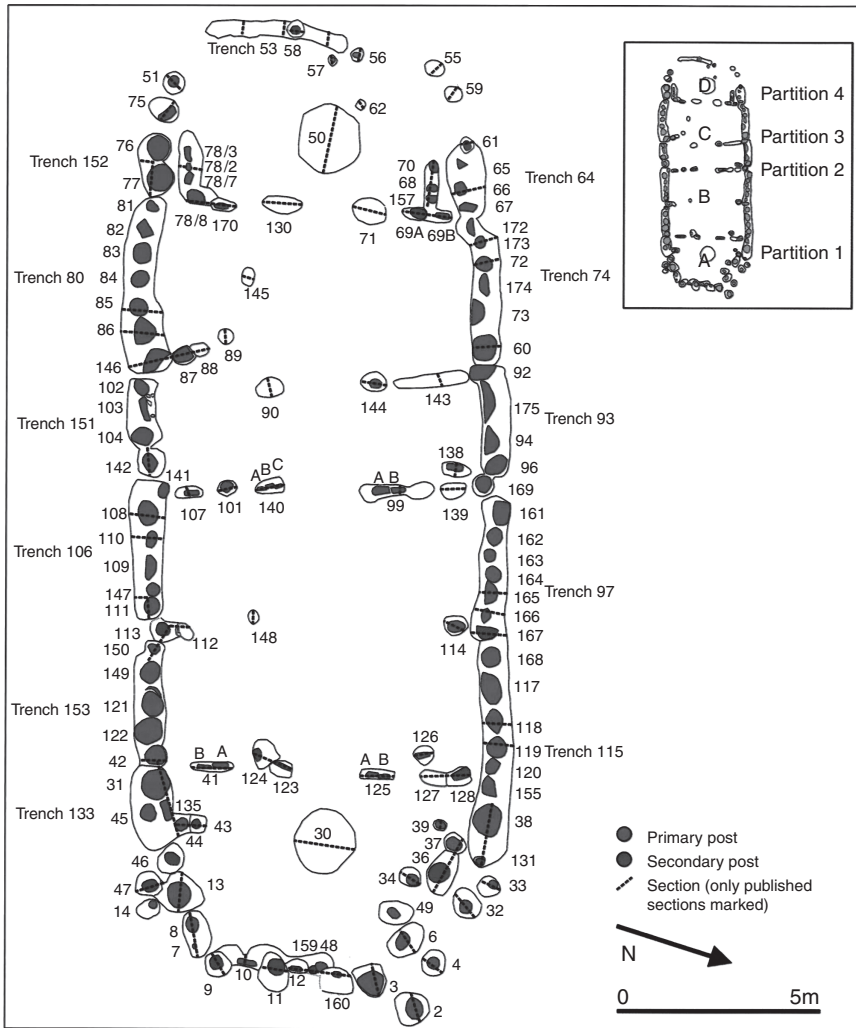


Fig. 9.5. Plan of the Neolithic timber hall at Warren Field (from Murray, Murray, and Fraser 2009, with the kind permission of the authors)

partitioning effectively creates a series of ‘bays’ on either side of the axial passage (Murray, Murray, and Fraser 2009: 51; Kirby 2011: 7) (Figs. 9.5, 9.6). This organization of space is virtually identical to that found in the stalled cairns of Caithness and Orkney, which developed at a later stage in the fourth millennium BC (Davidson and Henshall 1991: 33). These were composed of a linear chamber space sub-divided by pairs of orthostats, between which stone benches are frequently positioned. These benches were used for the deposition of human remains, initially in the form of fleshed corpses. If we can reasonably suppose that the architecture of stalled cairns amounts to a rendering in stone of the internal spatial organization of timber halls, it is logical to suggest that sequential

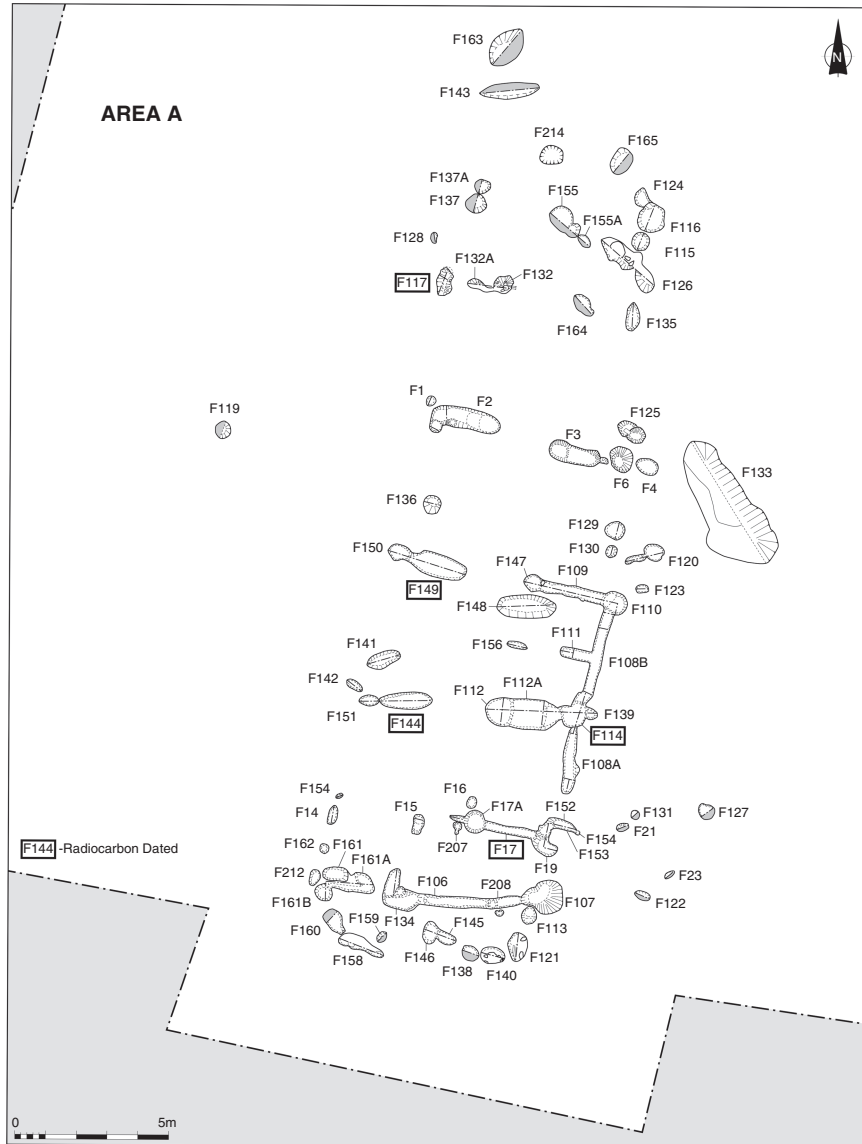


Fig. 9.6. Lockerbie Academy: Area A (after Kirby 2011, reproduced by the kind permission of CFA Archaeology)

bays were occupied by groups of people, whether divided according to gender, age grade, or family groups.

Another important aspect of this mode of construction is that the large posts that flanked the central passage of the building were presumably the first structural elements to be set up at sites like Parc Bryn Cegin, Llandegai, and Yarnnton. At an early stage in construction, the building would have been composed of a

series of pairs of substantial timber uprights. Later, these would have constituted a sequential series of 'doorways' through which a person would pass on entering the hall, comparable to the experience of passing between the pairs of orthostats in a stalled cairn (Richards 1992). This theme of pairs of timber uprights is one to which we will return, but at this stage it is worth recalling again the importance that is attached to the erection of the first house-posts within many house societies, and the symbolic and spiritual significance that these can acquire. Large posts were also increasingly used to enhance the visual impact of the buildings, as at Warren Field, where the principal entrance at the eastern end was rendered especially impressive by this means (Murray, Murray, and Fraser 2009: 51).

Although the Scottish halls of Warren Field and Lockerbie were constructed about a central aisle, Claish and Balbridie (arguably both slightly later in date) were built in a radically different way (Fig. 9.7). On passing through the main entrance, the visitor would be confronted by two lateral screens, forcing them to turn to one side or the other, and progress around the inside of the outer wall (Topping 1996: 164). Beyond the first two screens lay the central open space, and behind this were four further partitions of varying degrees of permeability. In both cases it is possible that one could exit through the far end of the building, although the potential west entrance at Balbridie is poorly defined. While it is perfectly possible that both Claish and Balbridie were inhabited at least seasonally, when they are compared with White Horse Stone it is clear that the priorities of hall-building had shifted over time in favour of the structured organization of movement and experience, establishing very particular conditions for social encounters and performances. These were indeed not simply farmhouses (Fig. 9.8).

As we have already noted, on entering the Warren Field hall the outsider would have been confronted with a very large post, F30. This post was paired with another, F50, at the opposite end of the principal aisle 17 metres away (Murray, Murray, and Fraser 2009: 30). Neither of these uprights appears to have been structural, yet their sockets were deeper than those of the wall posts. The space of social activity within the hall was effectively bracketed between these two posts, in a way that echoes the pairs of posts at Llandegai and Parc Bryn Cegin. Both of these posts appear to have been dug out, and the excavators suggest that they were salvaged before the house was destroyed by fire, because they might have had a totemic importance (Murray, Murray, and Fraser 2009: 40). After the timber had been removed, a burnt matrix containing potsherds, burnt grain, hazelnut shells, and a fragment of a wooden vessel was deposited in F30. This included about a third of the pottery assemblage from the entire site (Murray, Murray, and Fraser 2009: 38). F50 contained less material, but in both cases the post-sockets seem to have been treated in special ways, perhaps reflecting the importance afforded to the uprights that they had contained. At Claish, a similar pair of large axial posts had been present, in this case set close together in the central northern open space. Pits F15 and F19 had both been subject to burning, and both contained quantities of deliberately placed potsherds (Fig. 9.9). The material from F19 represented half of the total ceramic assemblage from the site (Barclay, Brophy, and MacGregor 2002: 77). Murray, Murray, and Fraser (2009: 41) argue that with the benefit of hindsight it is possible to recognize that these two pits had also held substantial timbers, which had been removed. The section of F19 in particular suggests the former presence of an upright. A similar, non-structural post stood in the

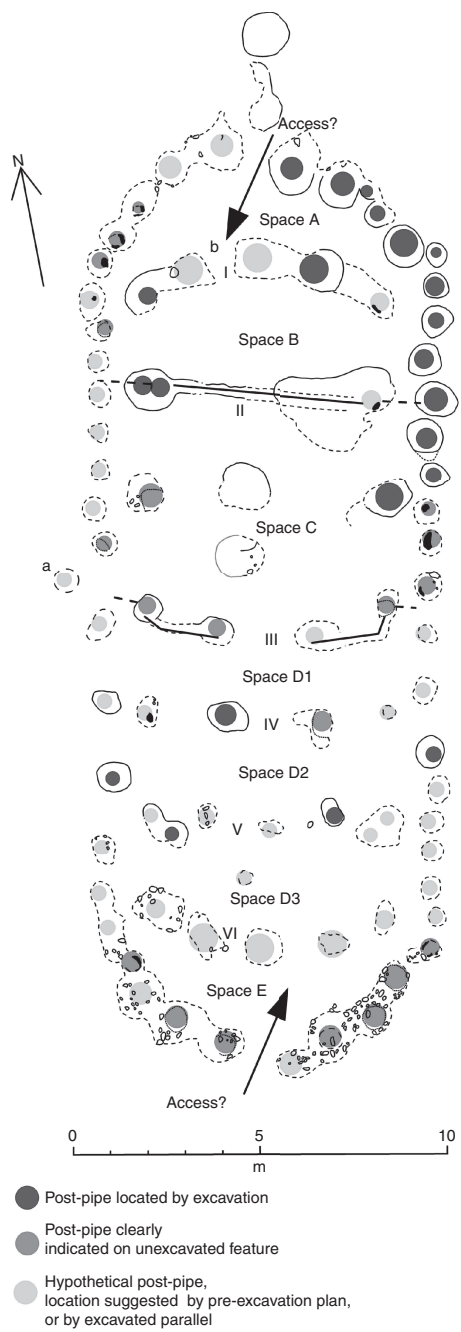


Fig. 9.7. Plan of the Neolithic timber hall at Claish (archive drawing by courtesy of Kenny Brophy)



Fig. 9.8. The Claish timber hall under excavation (archive photo by courtesy of Kenny Brophy)



Fig. 9.9. The axial pit F19 at Claish (archive photo by courtesy of Kenny Brophy)

westernmost lateral space of the Balbridie hall. These posts could be compared with the axial pits at Littleour and Balfarg, and at the post-defined cursus at Douglasmuir (Murray, Murray, and Fraser 2009: 52). All of this lends support to the notion that placing upright timbers in the ground was a symbolically charged act during the Early Neolithic, and that these timbers were perceived as valuable, powerful, or efficacious (Noble 2006b: 57; Helms 2007: 494). Further, it is arguable that they constituted a material embodiment of both the hall building and the 'house' community, and tangible evidence for the foundation and longevity of either. This is presumably why they were removed from the buildings prior to their destruction, and it is equally possible that they had been used in some other context before they were erected in the halls.

A final structural detail that is worthy of consideration is the row of post-holes that continued the line of the southern wall of the building at Parc Bryn Cegin (Kenney 2008: 17). Similar post-lines were present at Lismore Fields and Yarnton, and while they could have represented fences, the posts seem too distantly spaced for this to have been the case (Hey, Mulville, and Robinson 2003: 82). It is conceivable that these features are related to the avenues of posts that converge upon the façades of some long barrows, possibly serving as a device for focusing the attention of the onlooker onto the burial area. This structural connection between halls and long barrows is one that we will explore further in Chapter Ten. The connection between timber buildings and the dead has already been suggested by Francis Pryor, who points out that the Fengate structure was only 120 metres to the west of an Early Neolithic collective burial, and shared an alignment with a mortuary enclosure (Pryor 1976: 232). Given the presence of a jet bead and a stone axe fragment deposited in the wall slots of the building, Pryor suggested that it might actually represent a mortuary house of some kind (1993: 140). However, in the light of the debate on house societies, it is possible that 'houses' and 'mortuary houses' can blend into each other to some extent.

POTS AND PLANT REMAINS: FINDS FROM HALLS

We have seen already that the White Horse Stone structure did not produce appreciable numbers of finds, whether artefacts, bone, or plant remains, although the presence of small quantities of microdebitage indicates that stone tools were probably manufactured or maintained within the building (Booth et al. 2011: 71). The pottery from the axial pits at Warren Field and Claish appears to have been deliberately placed, as part of the process of decommissioning the structures, while the axe and bead from Fengate might best be explained as foundation deposits, similar to those in the Irish houses reported by Smyth. The large Carinated Bowl sherd from a post-hole and Group VI axe flake from a wall-slot at Lismore Fields I are comparable (Garton 1991: 13). Few artefacts were recovered from Yarnton, but the packing of one of the posts revealed cremated human remains and pyre debris (Hey, Mulville, and Robinson 2003: 81). On the whole, the British halls and houses appear to have been kept in a comparatively clean state, and whatever cultural material has been discovered within them is

dominated by objects that were purposefully deposited, either at the beginning or the end of the use-life of the structure. These observations provide a context for evaluating the evidence for economic practice from the timber buildings. Animal bones are largely lacking from these sites, but botanical remains are more prolific. At Llandegai, White Horse Stone, Yarnnton, and Parc Bryn Cegin, carbonized plant materials were absent or scanty, but substantial assemblages were recovered from Balbridie, Warren Field, Claish, and Lismore Fields. These finds, which include appreciable quantities of cereal remains, have attracted a good deal of attention (e.g. Rowley-Conwy 2004a: 90; Bogaard and Jones 2007: 362).

At Balbridie, cut features produced a total of 20,000 cereal grains, together with numerous hazelnut shells. There were few spikelets or weed seeds, indicating that this was a cleaned crop. 80 per cent of the grains were emmer wheat, with 18 per cent barley, although one post-hole produced a deposit dominated by bread wheat (Fairweather and Ralston 1993: 317). It was not possible to determine whether the plant remains at Balbridie had accumulated over a lengthy period, or whether they represented a single harvest. However, comparison with the material from Claish suggests that they might have been deliberately cached rather than being preserved by accident (Brophy 2007: 85). The Balbridie plant assemblage is one of the largest reported for Neolithic Britain, but Murray, Murray, and Fraser make the important observation that if this were intended as seed, it would only provide for a very small cultivated area (2009: 66). At Claish, most of the carbonized remains recovered from contexts such as the wall posts were hazelnut shells, while cereal grains were concentrated in the two pits with placed deposits, F15 and F19. As at Balbridie, the cereals were derived from cleaned crops, and there was no evidence for processing on site (Barclay, Brophy, and MacGregor 2002: 94). The same was the case at Warren Field, where the 153 grains from the large post-pit F30 was the greatest concentration of cereals on site, while pit F89 appeared to contain a deliberate deposit of barley (Murray, Murray, and Fraser 2009: 44). At Lismore Fields a rather different pattern was present, with abundant burnt deposits including chaff as well as emmer grains, flax seeds, hazelnuts, and crab apples (Garton 1991: 13).

Overall, plant remains in general and cereals in particular are richest in those halls that have the most elaborate architecture and the densest concentrations of artefacts. Moreover, they tend to be most prolific in the same features as contain what have been identified as deliberate deposits of pottery. If the plant remains themselves had been placed, they could obviously not be claimed as a fortuitous by-product of the everyday subsistence economy. None the less, the presence of relatively large numbers of cereal grains at several halls demonstrates that cereal crops were being grown during the primary Neolithic. It also represents an interesting contrast with the non-hall sites discussed in Chapter Seven, where evidence for cereal-growing was rather more sparse. Recently, Richard Tipping and colleagues have presented the results of detailed pollen analysis conducted in the vicinity of Warren Field. This indicates that while the hall was in use, the immediate landscape was dominated by scrub woodland, with cereals being grown nearby. The oak woodland that predominated in the wider region was absent, and stands of hazel were probably being carefully managed (Tipping et al. 2009: 148). Yet evidence for grazed grassland was missing, a circumstance that

sharply contrasts with the presence of residues of ruminant dairy fats from the pottery in the hall (Murray, Murray, and Fraser 2009: 49). Another way in which the evidence from the halls differs from other contemporary sites lies in the preponderance of flint sickles found at the former. Yarnton, Lismore Fields, Parc Bryn Cegin, Llandegai, and Warren Field have all produced either single-element sickles, or blades bearing sickle-gloss, which might have formed part of multi-element tools (Debert 2010: 299). These could have been used for cutting wild as well as domesticated plants, and one obvious use would have been in procuring roofing material for the buildings. None the less, they provide a further indication that a distinctive set of activities might have been associated with the use of Early Neolithic halls.

Without anticipating the discussion of subsistence activities in Chapter Twelve, it seems possible that as well as having a role in establishing bounded social groups and providing a context for periodic meetings, exchanges, collective consumption, and storage, some of the halls might have hosted a semi-sedentary segment of a broader community practicing a complex division of labour. If a small group of people maintained the hall, tended crops, and coppiced hazel, others might have tended livestock some distance away. As we will see, there are a variety of reasons why cereal growing might form part of a more broadly based economic pattern. However, as Brophy points out, if cereals were to be converted into alcoholic drink, it might be advantageous to cultivate them in proximity to a place of communal gathering (2007: 89).

BRITISH HALLS AND THE CONTINENTAL NEOLITHIC

Given the absence of large rectangular and trapezoidal timber buildings in the Mesolithic of Britain and Ireland, there is a level of agreement that the inspiration for halls and houses in must have come from the European continent. However, we have already noted, the identification of precise parallels is very difficult to achieve (Last 2008; Smyth 2010: 4). This is partly because by the start of the fourth millennium BC the massive longhouses of the Danubian tradition had long ceased to be constructed, and dwellings were generally more diverse and informal throughout northern Europe in the era of the Chasséen, Michelsberg, and TRB (Last 1996: 27). The contrast between the British halls and *Linearbandkeramik* settlement structure is a helpful one. In the LBK, almost all sites were large, long-lived settlements composed of numerous houses, save for seasonal camps located off the loess (see Chapter Three). Halls, by contrast, are one kind of site amongst others, and form a small minority of the locations at which Early Neolithic activity is represented in Britain. Halls did not represent the norm, and there were no long-lived, multi-house settlements comparable with the LBK pattern (Topping 1996: 159). Equally, while the LBK houses were relatively standardized in architectural terms, composed of three basic spatial modules that were replicated throughout central Europe, the British halls were much more heterogeneous. While Claish and Balbridie had a very similar internal spatial organization, the means by which this was achieved was very distinctive in either case.

Early Neolithic houses are now relatively common in southern Scandinavia, but they tend to be lightly built, with bowed sides and a single line of axial posts (Larsson and Rzepcki 2003: 6). Yet as in Britain, it is recognized that these buildings form one element of a more complex settlement pattern, alongside extensive pit sites with little trace of permanent dwellings. A little more similar to the British buildings is the TRB-associated post-hole and slot construction 13 metres long at Flögeln, near Cuxhaven. This had two parallel lines of axial posts supporting a double ridge-beam, and a series of lateral divisions, yet it was probably later in date than the British examples (Midgley 1992: 335). There has been particular interest in identifying progenitors for the British halls within the Michelsberg of Belgium and north-west France, one of the areas in which the origins of putative Neolithic migrants might be sought. Michelsberg timber buildings are not numerous, and most have only the most general similarity to the British sites, as in the case of the trapezoidal post-built aisled structure at Lantremagne (Marchal et al. 2004).

Probably the most significant site from this point of view is Hautes Chanvières at Mairy in the Ardennes, where eighteen large, rectilinear longhouses were found inside a probable palisaded enclosure (Marole 1989: 95; Jeunesse 2010: 62). These buildings were up to 60 metres long and very regular in plan, with parallel post-in-slot walls, open gable ends, a single line of massive axial posts, and internal lateral divisions (Fig. 9.10). Superficially, this construction has some similarity with White Horse Stone, although there are significant differences. The wall slots

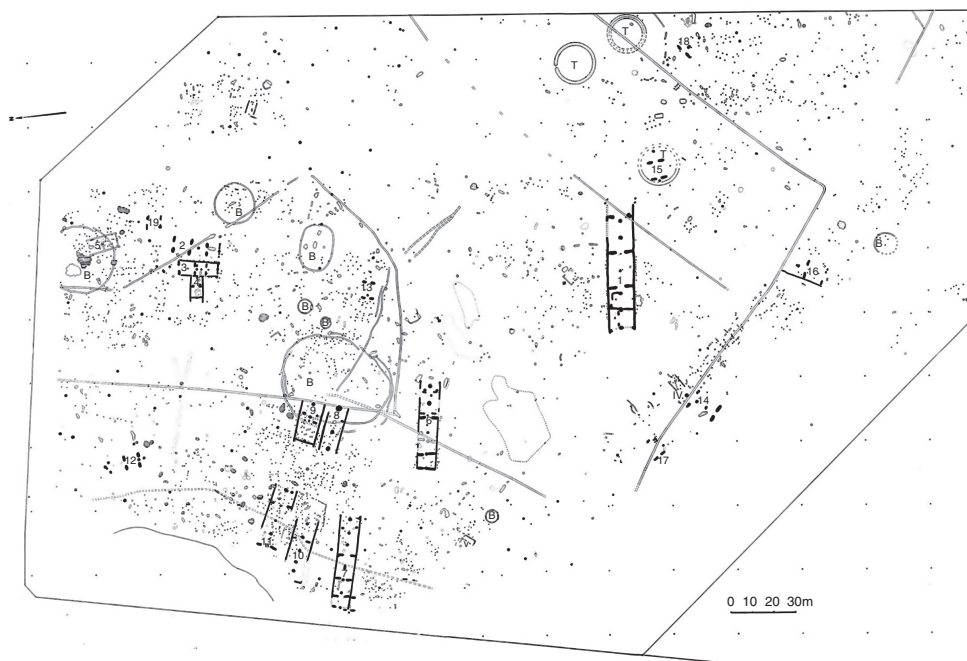


Fig. 9.10. Hautes Chanvières, Mairy (Ardennes), plan of Sector II of the excavations on the Michelsberg settlement (from Marole 1989, with permission)

at White Horse Stone are shallower than the more structural post-slots at Mairy, while the former has an aisled construction based on multiple post-rows. The Mairy buildings could also be compared with the Warren Field hall, but this has only the two non-supporting posts on its axis, sidewalls that appear to have been built in short lengths, closely set internal partitions, and concave end walls. Both White Horse Stone and Warren Field are generally 'scruffier' and less orderly than the Mairy structures. In general, the great houses at Mairy suggest a constructional tradition that might have been drawn on and emulated in creating the halls of Britain, but perhaps not one that was transferred wholesale from one region to the other.

THE DEATH OF THE HOUSE

One of the most distinctive features of the timber halls and houses of both Britain and Ireland is that many of them were burnt down, as were a variety of other timber structures of Early Neolithic date (Noble 2006a: 51; Thomas 2006: 237; Bradley 2007: 353). More than half of the wooden houses in Ireland were destroyed by fire (Smyth 2006: 246), while in Britain it is noticeable that the firing of houses, long barrow façades, post alignments, and other wooden constructions was more common in areas north of the Midlands. In some cases, very high temperatures were achieved when these buildings were burned. Sometimes these conflagrations have been attributed to domestic accidents, but explanations involving warfare and violence have also been proposed (Moore 2004: 145).

In the Neolithic of Europe as a whole, the deliberate burning of houses is a very widespread phenomenon. In south-east Europe, the practice is so common that virtually every Vinča settlement has some charred buildings, while in some every house has been destroyed by fire (Stevanovic 1997: 336). At Opovo, large numbers of houses had been set alight, but this appears to have happened as a series of separate events, during which a range of different temperatures were achieved in different buildings (Tringham et al. 1992). In some cases, the burning was more intense than could have been achieved on the basis of the inflammable materials of the buildings themselves, and other fuel must have been brought in for the purpose. Experimental work has demonstrated that the thorough burning of an earth-fast oak structure with daub-covered walls requires that the fire should be tended. An initial burst of flame will ignite a thatched roof, but thereafter the timbers smoulder over a period of hours or days, and are easily extinguished. Additional fuel is required both to start the fire successfully, and to keep it going (Bankoff and Winter 1979). Burnt houses are also known in Neolithic Calabria, where archaeomagnetic studies suggest deliberate firing often with the aim of hardening and preserving daub that could be incorporated into new structures (Shaffer 1993: 59).

In eastern Europe, the destruction of buildings by fire was often accompanied by the careful laying-out of various kinds of objects before burning took place. These included human bodies, animals, large numbers of pots, and offerings of food. As John Chapman (1999: 119) argues, these are 'death assemblages' rather than a reflection of the life and use of the house. Chapman's suggestion is that

these deposits amount to parting gifts, a final exchange between the living and the house ancestors or house spirits. Tringham (1991: 124) has proposed that Balkan Neolithic houses might have been destroyed by fire upon the death of the head of the household. This is a pattern that appears to be quite widespread in ethnographic terms (Friede and Steel 1980: 180). Alternatively, where the house is itself considered to be a living organism, burning may mark its death, and may even be construed as a means of 'killing' it (Beck 2007: 11; Bradley 2007: 353). The death of a house might represent a preparatory act before the founding of a new community, a statement of purification and renewal, or a way of celebrating a house ancestor and consigning them to collective memory (Smyth 2006: 247). In terms of the history and endurance of the house community, death might or might not have been the end.

The burning of halls in Britain has much in common with this continental material. Without claiming any connecting link with south-east European practice, the similarities imply that a strong case can be made that the spectacular destruction of wooden buildings was a purposeful act. At Llandegai, for instance, the oak posts of the hall were burned in their sockets, at such a high temperature that flint flakes within the structure became crazed (Lynch and Musson 2004: 29). The oak posts at Warren Field were also burned to their bases, and the presence of charcoal of hazel, birch, willow, and poplar implies that brushwood was brought in as fuel to facilitate combustion (Murray, Murray, and Fraser 2009: 58). At Claish, the building appears to have been set alight on more than one occasion, with repairs having been made in between. This is another indication that destruction was quite deliberate (Barclay 2003: 78). The oak posts had been carbonized to their tips, and the severity of the heat had calcined fragments of animal bone (Barclay, Brophy, and MacGregor 2002: 72). In the light of this evidence, it seems probable that the destruction of Balbridie was also intended, and that the cereal remains that it contained should be regarded as a 'death assemblage' instead of a snap-shot of Early Neolithic subsistence practice (Fairweather and Ralston 1993: 314). Where buildings were not burned, there is sometimes evidence for the removal of structural elements before abandonment. At Parc Bryn Cegin the gable-end posts may have been dug out, and this recalls the recovery of the axial posts from Claish and Warren Field (Kenney 2008: 21). As elsewhere in Europe, it is conceivable that these posts were re-used in other halls, or indeed structures of other kinds.

It is worth reflecting that the careful destruction of a massive timber building by fire, involving the acquisition of large quantities of brushwood for fuel, and keeping the burning going for hours or days, would have involved a major investment of effort. In a way, this kind of destruction could be compared with the work of construction, while also constituting a conspicuous expenditure of wealth, which might be rewarded by the generation of prestige. Moreover, it would have been an impressive spectacle, particularly if the conflagration continued through the night. The burning party, together with onlookers might have represented a significant gathering, and it is likely that eating, drinking, socializing, gift-giving, and story-telling would have accompanied the event. Altogether, the episode of destruction that would have imprinted itself onto the memories of all those in attendance, and would have been carried forward through time as a social memory, passed from person to person down the generations. Rowlands

(1993: 146) has drawn attention to the way that objects that have been deliberately destroyed or removed from circulation may survive as intense collective memories, potentially more powerful than the objects themselves. If we consider that the house societies of primary Neolithic Britain were affiliated to large timber buildings, which some of them may have visited rather infrequently, then another explanation for hall-burning can be proposed. Increasingly, Neolithic communities may have drawn their sense of solidarity and continuity from the rich memory of the 'death' of a building that no longer existed, but whose former existence was verified by its charred wreckage. That such buildings were remembered long after their use is demonstrated by the presence of pits containing Grooved Ware pottery within or immediately beside timber halls at Yarnton and White Horse Stone (Hey, Mulville, and Robinson 2003: 81).

CONCLUSION

The large timber halls of the primary Neolithic in Britain were not the standard form of dwelling in the first centuries of the fourth millennium BC, much less so for later stages of the period. Their architecture initially drew forms and devices from continental traditions, but they combined them in irregular and individual ways, and over time they became more distinctively insular. Their construction betrays a preoccupation with inserting large timbers into the ground, often in pairs. I have argued that these posts condensed and encapsulated the moment of creation of both the hall as a structure and the house as a community. Hall-building was a short-lived phenomenon, which followed on immediately after the first appearance of Neolithic innovations in several parts of Britain. Effectively it marked the process by which communities 'became Neolithic', for it brought about a transformation of social relationships. The foundation of house societies created bounded groups, attached to a body of wealth and a physical structure. Hall-building introduced discontinuity into both space and society. The hall itself was often literally a store of collective wealth, in the form of grain, hazelnuts, and other foodstuffs. This wealth provided one of the means by which the community enhanced its solidarity and engaged in competition, through conspicuous consumption. Another lay in the expenditure of effort on the hall buildings, which became progressively more monumental and elaborate.

Competitive emulation was the process that pushed hall-building forward: first emulating distant continental structures, then building bigger and better insular ones. In the process, the spatial organization of the buildings was transformed. While they began as simple aisled halls, their internal partitioning increasingly served to facilitate highly structured patterns of social interaction. This might indicate that the kinds of social performance that took place within them became more formalized. None the less, there are indications that they were used for dwelling as well as meeting, ritual, and collective consumption. In several cases plots of cereals may have been grown nearby, and a segment of a larger and dispersed community may have been in residence to maintain the hall and tend the crops.

Some of these halls remained in use for centuries, but there is some indication that the later and more elaborate structures were relatively short-lived. These halls, predominantly in the north and west of Britain, were more likely to have been deliberately destroyed by fire. The truncated life-histories of these sites suggest that the process of bringing the community into being was now complemented by an investment in securing its memorability. The spectacular destruction of the hall served at once as an impressive display of wasted social capital (the building itself, its contents, the labour power invested in construction) and a highly effective way of inserting the structure into social memory. If the hall itself no longer existed as a functional entity, it survived both in oral tradition and as a burnt-out shell (Brophy 2007: 89). For a dispersed community, many of whom would not have engaged in the everyday habitual activities of *dwelling* in the hall, the memory of the building and of its demise may have served as a more effective core of collective identity. It is this observation that provides the background for our discussion of the beginnings of Neolithic monumentality in Britain, in the next chapter.

Architecture: Timber Structures, Long Mounds, and Megaliths

THE BEGINNING OF MONUMENTALITY IN BRITAIN

We have already seen that the role of monuments within the Neolithic of north-west Europe is a contentious issue. To recap, one view is that the construction of monuments demands the investment of a level of effort that can only be supported once agriculture begins to produce a significant surplus (Legge 1989: 224; Rowley-Conwy 2004a: 84–5). Another argument is that monuments are not to be associated with a particular subsistence base, and that their proliferation was integral to broader social changes at the beginning of the Neolithic (Thomas 1988a: 64). More recently, the notion that monument-building was primarily a means of achieving a finished structure has been questioned, and the process of construction as a social practice in itself has been emphasized (Richards 2004; McFadyen 2007). However, the past decade has seen the emergence of striking new evidence which requires that all of these perspectives need to be re-evaluated and modified. Mesolithic monuments are now known to have been much more widespread than previously imagined, and have already been touched on in previous chapters. Most of these represent alignments of pits or postholes: at Stonehenge car park (Allen and Gardner 2002), Warren Field, Crathes (Murray, Murray, and Fraser 2009: 12), Bryn Celli Ddu (Pitts 2006), Nosterfield Quarry (Copp and Toop 2005), Vauxhall (Kennedy 2011), and beneath the Stanwell Cursus (Barrett, Lewis, and Welsh 2000: 198). These clearly demonstrate that Mesolithic hunters and gatherers were entirely capable of mobilizing large amounts of labour in order to make an enduring mark on the landscape. Yet these interventions were in some senses no more than an extension of the other Mesolithic place-making practices discussed in Chapter Six.

Another very salient point is that rather few fully built tombs, barrows, and enclosures appeared at the very beginning of the British Neolithic. A small number of structures were completed in the fortieth and thirty-ninth centuries BC, but long barrows and long cairns in particular became more widespread from the thirty-eighth century BC onwards (Whittle 2007a). More often, small-scale acts of construction (digging pits, erecting screens, setting up posts, depositing artefacts), which might eventually culminate in the building of recognizable monuments, were characteristic of the first decades of the Neolithic, as we have seen in Chapter Seven. The start of the Neolithic saw an upsurge of building practices. Some of these amounted to an extension and intensification of forms of

conduct that had been present if infrequent during the Mesolithic. But at the same time, there was a new emphasis on the establishment of durable architectural spaces which provided the settings for repeated events and performances. We have seen that these form one element of the way that material things increasingly guided, contextualised and sustained human action during the Neolithic, and the large timber halls discussed in Chapter Nine are a case in point. These did not simply reflect new cultural and economic circumstances, but actively brought them into being by providing new material referents for social life. In this chapter, it will be suggested that much of the architectural activity of the primary Neolithic was transformational in this sense, creating the conditions that supported new kinds of social conduct. The beginning of the Neolithic saw an increase in the scale of construction undertaken, and also the introduction of entirely new architectural forms. Like the halls, these were ultimately derived from continental prototypes. But intriguingly, the oldest Neolithic monuments in Britain form a very diverse grouping, and cannot be attributed to a single European tradition. Nor did they represent the material manifestation of any coherent and pre-existing Neolithic 'idea'. This provides a further indication that, in cultural terms, the primary Neolithic in Britain was pieced together from multiple sources, and not imposed wholesale by a colonizing population.

THE FIRST NEOLITHIC MONUMENTS

We noted in Chapter Seven that the important chronological analysis of Whittle, Healy, and Bayliss identified only four monumental structures that are demonstrably earlier in date than the thirty-eighth century BC: the Crickley Hill 'Banana Barrow' and the Burn Ground long cairn (both in Gloucestershire), the West Cotton long mound (in Northamptonshire), and the Coldrum megalithic tomb (in Kent) (2011: 722). There will doubtless be other very early monuments so far unidentified elsewhere in Britain, but on the basis of the sample investigated to date one can hazard the guess that they will probably remain a minority of the whole. One initial observation is that few of these sites are ones that would have been identified as being especially ancient on the basis of their morphology alone (as opposed to their stratigraphy). The so-called 'Banana Barrow' at Crickley Hill was a low mound 10 metres by 4 metres in extent, surrounded by quarry pits less than 2 metres in diameter, which had been backfilled with sterile material. This was stratified beneath the inner bank of the causewayed enclosure on the Cotswold escarpment (Dixon 1988: 78). Fragments of animal bone from the backfill of the pits produced a date of 4185–3990 BC (at 68 per cent confidence level). This extremely early date invites the speculation that the barrow might even have been constructed before the start of the local Neolithic. However, another possibility is that the bone was residual in character, and had been redeposited into first the mound and then the pits (Whittle, Healy, and Bayliss 2011: 446). The structure is therefore best regarded with a degree of caution.

Perhaps more significant is the early dating afforded to the Cotswold-Severn cairn at Burn Ground, Hampnett (Fig. 10.1). This was a trapezoidal long mound, with transepted chambers leading from a single entrance accessed through the

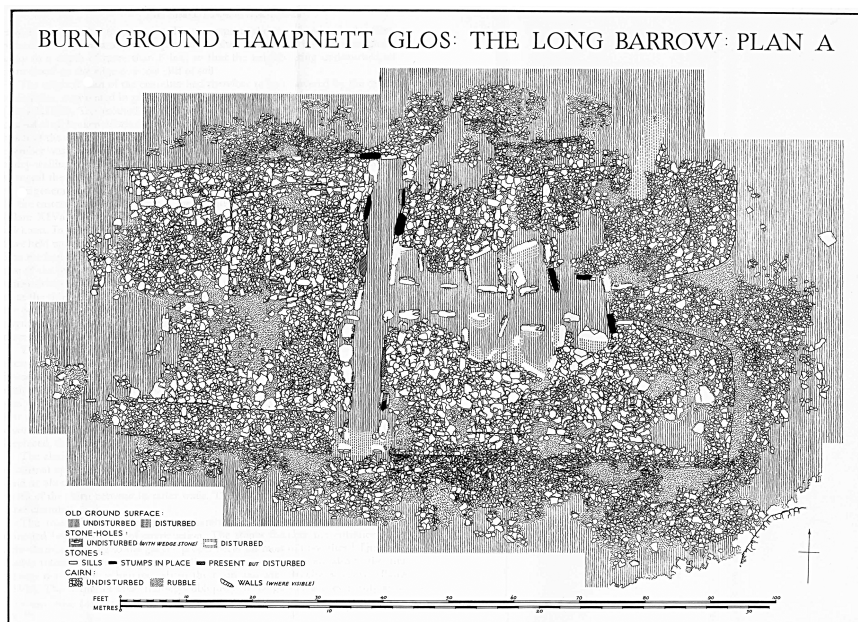


Fig. 10.1. The Cotswold long cairn of Burn Ground (from Grimes 1960, Crown Copyright expired)

forecourt, a lateral passage behind the chamber structure, and a mound structured by bays composed of dry-stone walls attached to an axial spine (Grimes 1960: 41). A series of radiocarbon dates on human bone contributed to an estimate of 4140–3760 cal. BC for the beginning of deposition (at 95 per cent confidence), probably 3985–3875 cal. BC (46 per cent). Aside from the Crickley Hill barrow dates, this is some of the earliest evidence for a Neolithic presence in the Cotswolds, and certainly the oldest date for one of the local long barrows. It is worth noting that it conflicts with previous attempts at an internal chronology for the Cotswold–Severn tradition based on artefactual associations, which would place monuments with transepted chambers late in the sequence (Thomas 1988b: 545; Darvill 2004: 83). The early date for Burn Ground is interesting, for some of its constructional details have clear continental affinities. Arrays of transepted chambers are known from tombs in the Morbihan and the Loire Estuary (Daniel 1939: 158; L’Helgouach 1965: 181). However, in other respects Burn Ground differs from these structures, for they are generally set in round and oval mounds, lacking a clearly defined forecourt or horned façade. Trapezoidal long cairns with bayed internal divisions within the mound are certainly represented elsewhere in northern and western France. At Prissé-la-Charrière and Er Grah in the west, large long mounds were constructed in ways reminiscent of the Cotswold–Severn group, but they lack either forecourts or the concave façades of barrows such as Hazleton North, which have chambers accessed through the sides of the mound (Scarre, Laporte, and Joussaume 2003: 237; Le Roux 2006: 81). Similarly, at Colombiers-sur-Seulles in Normandy, a long cairn with stone bays and an axial

spine, together with a polygonal orthostatic chamber accessed through the side of the mound, dates to the start of the fourth millennium BC (Chancerel, Kinnes, Lagnel, and Kirk 1992; Verron 2000: 121). Again, it lacks a clear forecourt or façade. Where trapezoidal long cairns are present in north and west France, they often have a distinctly asymmetrical plan not observed in the Cotswold-Severn group, possibly derived from local primary Neolithic longhouses (Scarre, Laporte, and Jousaume 2003: 242).

If Burn Ground is genuinely one of the oldest long cairns in the Cotswold region, it suggests that from the start the builders of Neolithic monuments in Britain were discovering new architectural possibilities as they worked, rather than merely reiterating an existing template. The emphasis on the façade as a depositional locus, space of gathering, and place of veneration is a distinctly eastern element, emphasized on the North European Plain and in Scandinavia and less pronounced in France. Its development into an enclosed forecourt area is more conspicuous in Britain and Ireland than elsewhere. We should remember that these architectural devices are not simply neutral traits, but relate to the practicalities of construction, and establish the conditions for subsequent use. What is surprising is that monuments that are ostensibly very similar in form seem to have been built over periods of centuries. Grimes' developmental sequence for Cotswold-Severn tombs (1960: fig. 37) exemplifies the assumption that monumental architecture should gradually change over time according to an unfolding internal logic, so that individual sites can be slotted into a specific stage in the process. Grimes proposed a devolutionary progression, but increasing architectural sophistication might equally be employed as a basis for a typological series. In his account, cairns with transepted chambers are earliest, reflecting the arrival of an architectural tradition from the continent. Thereafter, severed from the cultural core, the structures became progressively cruder. The terminal entrance was replaced by a false portal; the false portal declined; paired lateral chambers first replaced transepts and were then eliminated; dry-stone walling was substituted for orthostatic chambers. The new dating for Burn Ground could be seen as partially validating Grimes' argument (although the relatively early date of Ascott-under-Wychwood contradicts it), but the larger point is that structurally distinct monuments were actually built contemporaneously. Revealingly, the three barrows of the Cotswold-Severn tradition with transepted chambers that have been subjected to Bayesian chronological analysis were constructed over a very considerable period of time. If Burn Ground was built in the thirty-ninth century BC, West Kennet dates to the thirty-seventh, and Wayland's Smithy to the thirty-fifth century. Comparing West Kennet and Wayland's Smithy, Whittle, Bayliss, and Healey (2008: 67) speculate that the latter might have represented an example of deliberate anachronism. But when Burn Ground is factored into the discussion it is evident that rather similar kinds of chambered long barrows were being constructed for at least 400 years. This has explosive consequences for the whole enterprise of monumental typology. If the structural morphology of Cotswold-Severn cairns provides little indication of their relative chronology, why should we expect architectural change to automatically take place through time within any class of Neolithic monuments? The answer would seem to be that we should not imagine that formal development is an inherent quality of any architectural tradition. Rather, the appearance of monuments is more likely to be transformed

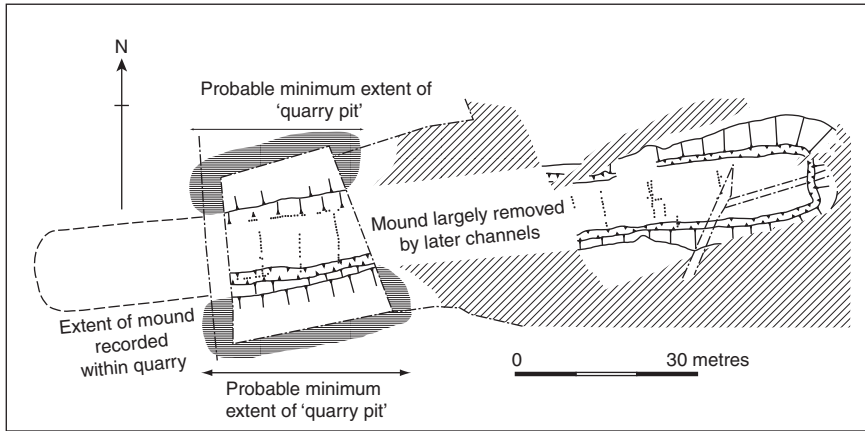


Fig. 10.2. West Cotton long mound, overall plan (from Harding and Healy 2007, with the kind permission of English Heritage)

if and when the contingent circumstances and social requirements attendant upon them change. These need to be identified, rather than assuming seamless and internally generated stylistic development. As Ian Kinnes once aptly put it, we should not expect to rely upon 'sub-Darwinian principles of evolution and reversion' (Kinnes 1975: 20).

The West Cotton long mound was investigated as part of the Raunds Area Project in 1986 (Harding and Healy 2007: 10). Subsequent radiocarbon dating has indicated that it was built in the period 3940–3780 cal. BC (95 per cent confidence), and probably in 3900–3820 cal. BC (68 per cent confidence) (Harding and Healy 2007: 54). The mound was 135 metres long, with parallel sides that splayed outwards toward the eastern end (Fig. 10.2). It was composed of turf, stacked within bays defined by lateral lines of stake-holes (probably representing panels of hurdling), with further lines of stakes running along either side of the mound. This bayed style of construction is familiar from the South Street and Beckhamp-ton Road long barrows in the Avebury region of north Wiltshire, and Giant's Hills I in Lincolnshire, although the West Cotton mound lacked the axial line of stake-holes present at those sites (Phillips 1935; Ashbee, Smith, and Evans 1979: 259). In a very general way, the bays also recall the internal organization that we have described at timber halls such as Lockerbie and Warren Field. Possibly the infilling of particular bays was the prerogative of specific groups of people, just as sub-communities many have made use of the separate spaces of the halls.

There was no mortuary structure at West Cotton, and no funerary deposit. Some while after the raising of the mound, a gully was dug enclosing its summit, and the stakes that this contained were eventually destroyed by fire (Harding and Healy 2007: 89). This episode of burning brought the use of the mound to an end, and in this respect presents another broad point of similarity with the wooden halls. Although the long, low mound at West Cotton might be compared with the *tertre tumulaires* of north-west France, more precise similarities can be found amongst the long mounds of northern Europe. Earth and turf mounds structured by transverse lines of stakes and lacking an axial line are represented in Denmark

at Barkaer and Østergård (Madsen 1979: 311). In the case of the two long mounds at Barkaer, the bays had been filled individually using distinctive materials (Liversage 1992: 77).

The Coldrum megalithic tomb was effectively a small, chambered long barrow, with a trapezoidal mound surrounded by a kerb of sarsen boulders (Fig. 10.3). The box-like, linear stone chamber was set back from the façade (Bennett 1913: 76). It was composed of long, parallel orthostats, apparently sub-divided by a pair of upright medial stones. As we will see later in this chapter, this arrangement is strikingly similar to the linear timber chambers found beneath many earthen long barrows. Inside the chamber there were layers of stone paving, and at least two distinct deposits of human bones, the uppermost of which was principally made up of a number of skulls, clustered at the base of the western orthostat (Bennett 1913: 76). Recently acquired radiocarbon dates suggest that the first phase of deposition of human remains probably began in the period 3960–3890 cal. BC (at 68 per cent confidence), and lasted for 1–110 years (Whittle, Healy, and Bayliss, 2011: 381). At a general level, the trapezoidal stone-bounded mound with a laterally divided linear chamber could be compared with Les Fouillages on Guernsey, which dates to the later fifth millennium BC (Kinnes 1982: 26). Yet both the stone kerb and the chamber form are rather closer to examples on the North European Plain (Midgley 2008: 14). Collectively, Burn Ground, West Cotton, and Coldrum indicate that the earliest Neolithic monuments in Britain drew their inspiration from diverse sources, and mixed structural elements together creatively in order to achieve effects that were appropriate in the insular context.

These earliest monuments were probably constructed during the fortieth and thirty-ninth centuries BC. From around 3800 BC, the scale of monument-building increased, as Neolithic activity began in the north and west of Britain, and construction intensified in the south and east. One explanation for this might be that as Neolithic practices and innovations became more firmly established in Britain, the inter-community competition in which they were employed became more marked. Discussing the development of monumentality in Britain from the thirty-eighth century onwards is fraught with difficulty, for the accurate radiocarbon chronology is patchy, and all but non-existent in the case of the megalithic tombs in the north and west of Britain. If we are to remain cautiously sceptical of typological dating, a reliance on artefactual associations provides only a coarsely grained sequence. The presence of unabraded sherds of Carinated Bowl pottery in primary positions may be an indication that a site is relatively ‘early’, but the probability is that in some regions the tradition may have remained in use until the start of the thirty-sixth century BC (Whittle, Healy, and Bayliss 2011: 759). Other forms of material culture are even less helpful. What follows is therefore mindful of the need to acquire many more high-precision radiocarbon dates from meaningful contexts in long barrows, long cairns, megalithic tombs, and cursus monuments, on a scale comparable with the impressive coverage that has recently been achieved for causewayed enclosures (Whittle, Healy, and Bayliss, 2011). Until this has been accomplished, discussion is necessarily somewhat provisional.

LONG MOUNDS AND TIMBER MORTUARY STRUCTURES

Over the past seventy years a number of authors have pointed to the similarities between houses and tombs in the temperate European Neolithic (Childe 1949: 135; Hodder 1984: 54; Sherratt 1990: 159; Bradley 1996; 2002: 30; Laporte and Tinévez 2004). Most notably, the long houses of the post-*Bandkeramik* groups and the earthen long barrows of western France and northern Europe overlap spatially (and to some extent chronologically), share a trapezoidal plan, have similar patterns of orientation, often have entrances at the broader (or 'business') end, and are clustered in the landscape in similar ways. In recent years, the possibility of a relationship between the timber halls and long mounds of Britain has also begun to be contemplated (Whittle et al. 2007: 140). Hodder (1994: 84) draws attention to specific abandonment practices that connect tombs and houses, such as the burning of timber structures and the deposition of pottery and other artefacts along the front façade. Hodder's argument is that tombs were representational, and that their role was to create new social units by referring to houses. Putting this in another way, tombs 'mean' houses (Hodder 1994: 75). But in the light of the investigation of halls and houses presented in Chapter Nine, a slightly different case can be made. In Britain at least, funerary monuments did not signify houses: they *were* houses. By this I mean that the most fundamental social roles of barrows and timber halls were identical. We have seen that the most significant characteristic of the large wooden halls of England, Scotland, and Wales was not that they were inhabited—even if most of them probably were, for at least some of the time. Through their construction, halls brought into being a bounded human group who claimed affiliation to the community and the building, corporate ownership of a body of wealth, and probably real or fictive descent from a group of house ancestors. Alongside the inalienable valuables of the group, the hall itself provided the lasting material core to which successive generations attached themselves. Yet as we saw, the life histories of these halls became progressively abbreviated, and the manner of their destruction more spectacular, so that in time people may have identified less with a material structure than with its memory. The principal argument of this chapter will be that in terms of affiliation and memory, tombs (and in particular long barrows and long cairns) were closely comparable with timber halls.

One of the main difficulties in assessing how far earthen long barrows can be attributed to the initial stages of the British Neolithic is that the mound itself is often the culmination or closing statement in a sequence of actions whose archaeological visibility is uneven. The barrow arguably forms a massive memorial to a set of practices that have been focused on a given space, not all of which need necessarily have contributed directly to the construction of an integral built form (McFadyen 2006b: 95). While the process that led towards the final mound could be portrayed as a sequential narrative, it was none the less punctuated, and composed of episodes that were significant in themselves. We have seen in Chapter Seven that at sites such as Eweford West these pre-barrow activities were protracted, and their outcomes were not necessarily predetermined. And as we will demonstrate below, they did not always conclude with the raising of a mound or cairn at all. In many cases, the structural elements that were built before the construction of the mound included a linear timber chamber. Where the

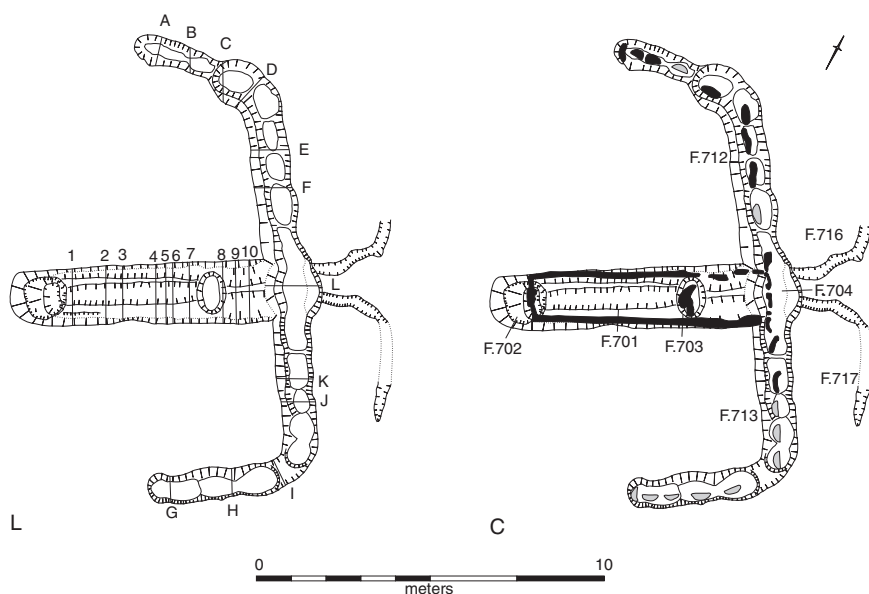


Fig. 10.4. Haddenham long barrow: mortuary chamber, façade, and fore-structure (from Evans and Hodder 2006, reproduced by the kind permission of the McDonald Institute for Archaeological Research)

wooden components of the chamber are not preserved, the main evidence for this structure takes the form of two or three very large postholes, often located on the axial line of the barrow. These define a linear zone within which human skeletal remains may be found, and this is often flanked by banks of clay or stone (Kinnes 1975: 19; Vyner 1984: 161). The axial uprights were generally massive oak tree-trunks, and in many cases these had been split down the middle, so that the post-pipe revealed within the socket is D-shaped in plan. Following the excavation of the important site of Fussell's Lodge in Wiltshire, Ashbee (1966: 30) argued that the three large uprights had formed the supports for an elaborate tent-shaped mortuary house, which had been accessed through a 'porch' represented by four smaller post-holes, and set within an earthen mound revetted by a timber palisade. A more minimal interpretation has been favoured in recent work, in which a simple timber box was formed by bracing a pair of planks against the upright trunks, held in place by the flanking banks. The implication of this is that the chamber was not accessible once the mound had been raised, and that the accumulation of the mortuary deposit would already have been complete at this point (Whittle 1991: 93). This was confirmed by the excavation of a preserved wooden mortuary structure beneath the long barrow at Foulmire Fen, Haddenham, in Cambridgeshire (Evans and Hodder 2006: 95). The Haddenham structure was built into a linear trench, with a plank floor and removable wooden 'lid' constructed around three massive uprights, one of which was integral to a façade of posts which defined a forecourt to the east of the chamber (Fig. 10.4).

This mode of construction implies that the large timber uprights were usually the first component of the chamber to be put in place. Gordon Noble (2006a: 71)

has recently made a compelling case that there was often a significant period between the erection of the posts and the addition of the rest of the framework, to the extent that the tree-trunks had in some cases already rotted out before any human remains were introduced to the structure. Noble's argument is that these were not actually funerary monuments in the accepted sense, for the bones were only deposited as part of a closing ceremony that brought the use of the site to an end. The huge timber posts were themselves the focus of the structure, often being much larger than any functional requirement would demand, and they symbolized the critical role that trees and woodland played in human life at the beginning of the Neolithic. At a time when the woods were being opened to allow new ways of life, they might need to be propitiated in order for this process to continue (Noble 2006b: 57). There is much to recommend these arguments, but I would like to propose a slightly different interpretation. While the erection of pairs (or triads) of split oak posts in the ground was unquestionably a powerful material statement, the connection with trees and organic growth might have been only one aspect of its meaning. It is equally important to note the parallel with the use of paired uprights in the wooden halls, and especially the non-functional timbers at Warren Field, Claish, and Balbridie. Just as with the construction of a hall, it is possible to argue that the insertion of felled trunks into their sockets memorialized the moment at which a circumscribed social group came into existence. Moreover, the split timbers afforded the possibility for the contents of the chamber to be incorporated and enclosed within a conceptually unified entity. Crucially, the posts were invariably positioned with their flat sides facing each other, so that whatever lay between them was contained 'inside' the post. This arrangement is similar in conception to the split boulders employed in many Scandinavian passage graves, often placed on opposite sides of the chamber, expressing both enclosure and unity (Dehn and Hansen 2000: 219). So although it is possible that the paired uprights were not employed as part of a container for human remains until decades after they had first been put in place, there was no change in their meaning: they provided the material focus for a 'house' society, and as such they represented an appropriate location for the ancestral dead.

Sequences of construction that began with split-post structures did not always end with the raising of an earthen long barrow, so the outcome of the process was not absolutely determined in advance. At Aldwinckle in Northamptonshire, two successive two-post structures were enclosed within a ring-ditch, the later of the two being associated with two inhumations (Kinnes and Jackson 1971: 43). At New Wintles Farm in Oxfordshire, two pits containing fragments of cremated bone (without clear evidence for posts) were enclosed by two sets of ditches, which suggest a small, low covering mound (Case and Whittle 1982: 54). More substantial evidence came from Pitnacree in Perthshire, where two D-sectioned posts had stood for an appreciable time before being enclosed within a horseshoe-shaped bank of stones. A linear stone enclosure was subsequently constructed, overlapping both one of the posts and three cremation deposits on the old land surface (Coles and Simpson 1965: 41; Masters 1983: 102; Sheridan 2010c: 45). By the time that the box-like stone setting was in place, the posts had rotted and Carinated Bowl sherds strewn on the land surface had become severely abraded (Noble 2006a: 79). Where these timber pairs had stood for a significant period before

being integrated into a more elaborate structure it might be most appropriate to describe them as 'shrines', into which human remains were later incorporated.

When long barrows were raised over two-post settings and timber chambers, the sequence of activity was often complex and extended. At Wayland's Smithy I, for instance, the split timbers were put in place before a sarsen pavement was laid between them, and these two events may have been separated by some time (Whittle 1991: 93) (Fig. 10.5). It is estimated that the timber chamber predated the raising of the mound by 40 to 100 years (Whittle et al. 2007: 129). A similar picture can be discerned at Giant's Hills 2 in Lincolnshire, where two large D-sectioned posts framed a linear paved area on which a compact group of fragmentary human bones had been placed (Evans and Simpson 1991: 14). At Fussell's Lodge, it is conceivable that two of the axial posts (A and B) initially made up a free-standing pair, with a third (post C) added at a later stage, while the mortuary deposit eventually covered the medial upright (Wysocki, Bayliss, and Whittle 2007: 67). However, it is also possible that human remains had simply slumped over the middle post as it rotted out (Liversage 1992: 82), and that post C had been added to the initial pair of uprights in order to create a chamber with two compartments. As mentioned above, Ashbee imagined a pitched mortuary house set within the chalk and earth mound, but if a simpler linear chamber is to be preferred, the mound and its revetting palisade might have been constructed after the deposition of human remains. This reverses Ashbee's proposed sequence, but it overcomes the difficulties that Simpson (1968: 143) identified in manoeuvring post C into the entrance of the palisade, while Ashbee acknowledged a lack of stratigraphic clarity in the relationship between post-hole and palisade slot (1966: 30). This entire sequence might have been played out over anything between ten and 155 years (Wysocki, Bayliss, and Whittle 2007: 76).

In some cases, the major wooden uprights do appear to have been substantially older than the remainder of the mortuary structure. At Street House in North Yorkshire, the proximal post of the mortuary structure produced a radiocarbon date of 3970–3761 cal. BC (at 68 per cent confidence) (BM-2061), some centuries earlier than the rest of the timber façade with which it was contiguous (Vyner 1984: 153). It is possible that the charcoal of this very large timber was subject to an 'old wood effect', but even taking this into account it is likely that the post had either stood in position for a considerable time before the addition of the other timbers, or had been re-used from another structure of some kind. At Haddenham, the pre-barrow structure had initially taken the form of three large posts, which were probably erected in the thirty-eighth century BC, or even earlier (Whittle, Healy, and Bayliss, 2011: 344). The planks of the timber chamber were dendrochronologically dated to the much later period of 3625–3600 BC. The chamber was accessed through the façade, over a series of low timbers that had replaced the original proximal D-sectioned post—another indication of the longevity of the sequence (Evans and Hodder 2006: 88). Similar small timbers had replaced the other two large uprights, clearly demonstrating that the chamber structure had been refashioned over a lengthy period, with the huge tree-trunk frame becoming less significant as time went on. Something rather similar may have taken place at the Dalladies long barrow in Aberdeenshire, where three huge D-shaped pits defined the first phase of the chamber structure. The post-pipes

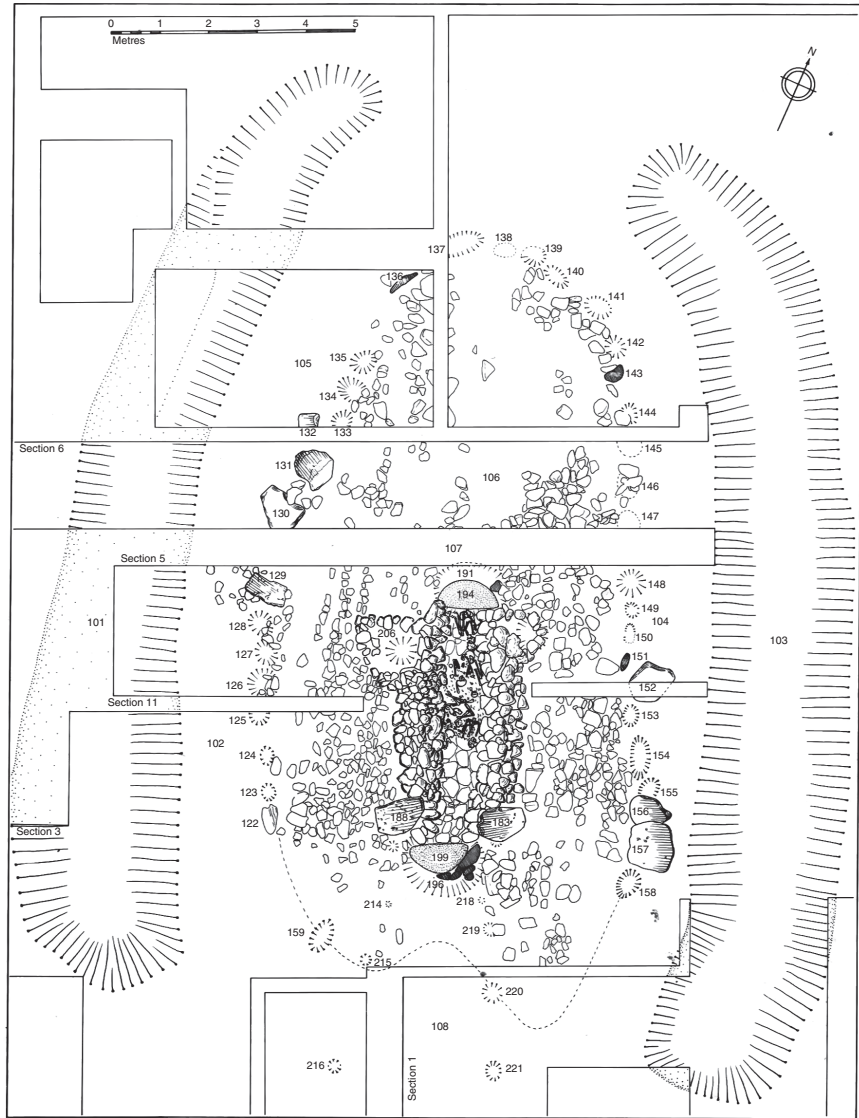


Fig. 10.5. Plan of Wayland's Smithy I, showing timber mortuary structure (from Whittle 1991, reproduced by the kind permission of the Prehistoric Society)

within these features were rather small, and Pit E contained three such posts, side by side (Piggott 1972b: 30). The obvious conclusion would be that these pits had originally contained large oak posts that had either rotted out or been withdrawn before the insertion of the smaller members, as part of the construction of the wooden chamber (Noble 2006a: 84). This in turn was replaced by a rectangular setting of stones similar to that at Pitnacree, which was eventually filled with logs and burned (Piggott 1972b: 35). The only human bone found in the chamber complex was a fragment of a child's cranium.

While the first of the two chambers at Dalladies was not burned, the firing of linear mortuary structures was a feature of several of the lengthy pre-barrow sequences that have been identified in Scotland. At Pencraig Hill in East Lothian, the first structure on the site was a small, clay-floored building that was probably destroyed by fire, before a trapezoid palisade enclosure was created. Inside this, and presumably screened and hidden by it, an amorphous deposit of ash and charcoal represented a wooden chamber bracketed by two large posts, which had burned and collapsed into a shallow pit below. Amongst the debris were the charred remains of at least two persons, principally the skulls and longbones (Lelong and MacGregor 2007: 41). Following the destruction of the chamber, the surrounding palisade was itself burnt, before a stone-revetted long mound was built over the whole. At Eweford West, two timber chambers were built successively on a low mound, shielded behind a simple screen or façade (see Chapter Seven). One was a plain plank box, the other was framed by three large posts, with timbers wedged on either side by stones. Both chambers were burned, and both had contained human remains (Lelong and MacGregor 2008: 23). As we have noted in Chapter Seven, the position of the two chambers behind the façade and on either side of the axial line of the earthen barrow that was raised following the burning is strongly reminiscent of the structural arrangement of some Cotswold-Severn long mounds, most notably Ascott-under-Wychwood (see later in this chapter). Finally, at Lochhill in Dumfries and Galloway, three large posts (the outer two of which were D-sectioned) had apparently rotted out before the plank floor of a chamber containing human bones was burnt, together with a timber façade. Following the fire, a long cairn was built over the burnt remains, with a walled chamber space that respected the position of the former timber structure (Masters 1973: 97; Noble 2006a: 83).

So, the two-post settings that preceded so many earthen long mounds were often initially free-standing structures, to which other elements and funerary deposits were later added, and we have argued that they initially represented 'house shrines' (and something similar could be suggested for the small building at Pencraig Hill). That is, they condensed the founding act of the house community (the erecting of the house posts) into a massive physical presence (Fig. 10.6). The transformation of such a shrine into a container for human bones often seems to have involved the addition of a third upright. We have seen that the central timber at Fussell's Lodge may have rotted out or been withdrawn before the final deposits were placed in the chamber (Simpson 1968: 143). In the case of Haddenham, the remains of a withdrawn medial post were found within the chamber, beneath a mound of burnt turf (Evans and Hodder 2006: 92). At Street House the medial pit was the smallest, and contained several fragments of wood, echoing the arrangement at Lochhill (Vyner 1984: 159). At some sites, such as Pitnacree and Slewcairn (Masters 1983: 84) there are indications that cremated bone might have been deposited in the immediate area of the 'shrine', but it seems that they were more often reconfigured to some extent before they began to receive human remains. Where the simple linear box was sub-divided by the presence of the third upright, the possibility was created of drawing distinctions between categories of material deposited, or segregating different stages in the mortuary process. It seems that at Fussell's Lodge the remains in the inner part of the chamber had been subject to a greater degree of selection than those in the outer (Thomas 1999: 137). Possibly,

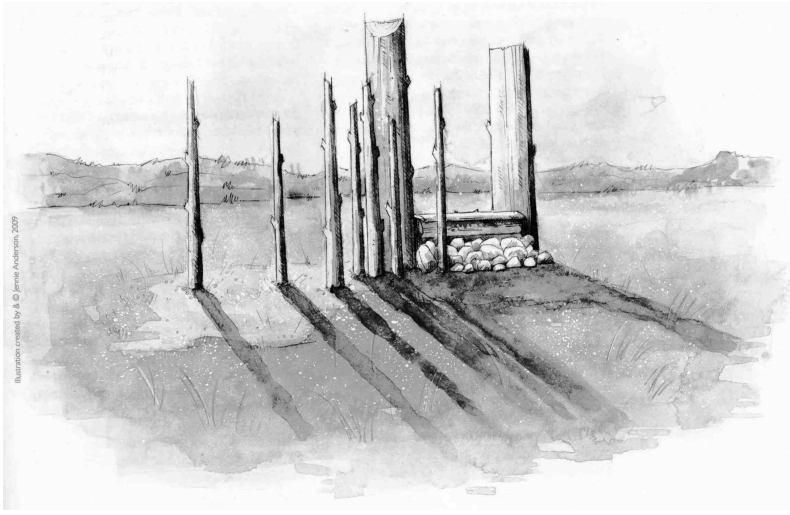


Fig. 10.6. Reconstruction of the wooden pre-barrow structure at Wayland's Smithy (art-work by Jennie Anderson, used by the kind permission of the artist)

then, fleshed bodies had been laid out in the proximal compartment, and parts such as longbones and skulls transferred to the distal area following decomposition, although some reorganization may have taken place at a late stage, giving a spurious impression of completeness (Whittle et al. 2007: 130). This could have been a purely functional way of organizing the chamber space, or it might be a means of emphasizing the eschatological transformation that is often associated with the decay of the flesh, as a person slowly recedes from worldly life (Bloch 1982: 217). Either way, the removal of the central post could represent part of the decommissioning of the structure, signalling that its use as a place for processing the dead had come to an end.

The treatment of the dead within some timber chambers appears to have been quite complex. At Haddenham, fully-articulated bodies were introduced into the chamber before rotting and being forcibly stripped of flesh. Finally, the cleaned bones were pushed to the back of the chamber. The burning of the chamber itself was a separate episode, following the partial construction of the mound (Evans and Hodder 2006: 152). But we have seen that at other sites only small quantities of bone were represented. In the example of Dalladies it could be argued that bones that had been defleshed within the chamber had been removed for use elsewhere. This might lead us to conclude that timber chambers were less 'places of rest' for the dead than 'places of transformation' (Thomas 2000). Yet the small quantity of bone at Giant's Hills 2 had the appearance of a deposit of material that had been brought from elsewhere. At Fussell's Lodge, and perhaps other sites, it is possible that individual bones that had previously been in circulation were introduced into chambers, although most of these were probably derived from persons who had died within a decade of construction rather than truly ancient 'ancestors' (Whittle et al. 2007: 133). Thus it appears that there was a certain amount of movement of skeletal material between locations. But it is also clear that only small numbers of persons are represented at these sites, and that the

great majority of people who lived during the Early Neolithic must have been disposed of in some other, archaeologically invisible way (Kinnes 1975: 16; Masters 1981: 101). This familiar argument is given extra weight by the recognition that the mortuary deposits in many long barrows and long cairns accumulated quite quickly, generally in less than seventy-five years, rather than over a period of many generations (Whittle et al. 2007: 131). Not only was monumental burial not the 'normal' form of mortuary practice throughout the Early Neolithic, it may have been conducted for only a short while after the construction of a chamber, and then ceased. Yet within this brief period interment was successive, and did not represent a single episode of deposition following an epidemic or massacre (Whittle et al. 2007: 134). This would seem to preclude the possibility that barrows and tombs were a highly-ranked mortuary facility for the members of a social elite. Men, women, and children were all likely to be deposited (Wysocki and Whittle 2000: 598), without any clear indication of selection. In some cases many bodies were present, but in others single corpses, and sometimes only skeletal fragments.

If the timber-pair structures constituted shrines that were architecturally related to the foundation of houses and halls, it is logical that the human bodies that were deposited within them during abbreviated periods of funerary activity were house ancestors. These people need not necessarily have enjoyed any particularly elevated status during life. Their incorporation into the developing monument merely enabled the living community to claim descent from them (Helms 2007: 493). Such a collection of ancestral remains might accumulate over a period of years or decades, before being consigned to memory through the burning of the mortuary structure and the building of the barrow. This process took on a greater degree of elaboration in the north of England, where timber mortuary structures were used as crematoria. After a number of bodies had been deposited in the linear chamber and fuel had been added, the mound was constructed, leaving flues to allow combustion to take place. Very high temperatures were achieved in this way, fusing human bone and chalk into a calcined mass (Kinnes 1992: 84). Crucially, although conventional archaeological wisdom has it that long barrows and megalithic tombs were built as territorial markers by *existing* social groups (e.g. Renfrew 1973b: 544), the alternative proposed here is that they commemorated the *foundation* of social groups. Indeed, the mortuary assemblages found within long barrows might be more appropriately described as 'foundation deposits' than as 'cemeteries' or 'ossuaries'.

BURNT FAÇADES AND TIMBER HALLS

Like timber halls, shrines composed of pairs of split tree-trunks were both the medium through which a bounded property-holding community was brought into being, and the means by which it was memorialized and sustained. The paired posts, reminiscent of both a doorway and a hall interior, might easily invoke themes of transition and transformation, making them doubly appropriate as a location for funerary activities. Yet there are other qualities that pre-barrow structures had in common with wooden halls. Quite apart from the common

orientation of many halls and long mounds (Topping 1996: 161), the virtually exclusive use of oak for both kinds of construction is worthy of attention. As Helms (2007: 494) points out, the use of the *correct* species of wood for buildings connected with community identity is of cosmological significance. In the case of Haddenham, it has been suggested that the entire timber chamber was fashioned from the wood of a single oak tree, apparently signalling a connection between the unity of the tree and that of the community (Evans and Hodder 2006: 138). This shared use of materials is complemented by architectural affinities. Barclay, Brophy, and McGregor (2002: 122) noted that the plan of the gable wall of the Balbridie hall was very similar to that of the timber façade of the Lochhill long cairn, to the extent that the one could virtually be overlaid upon the other. This can be attributed to some extent to the deployment of similar skills and building practices in both contexts. But we could go further, and argue that the construction of timber halls and façades were to some extent interchangeable.

At some long barrow sites, the large timber posts that framed the mortuary structure were integral to a façade composed of smaller posts. This was the case at Street House, Willerby Wold, Fussell's Lodge, and Haddenham, for example. Like the 'post shrines', façades often stood in isolation for long periods before the construction of the mound. In the case of the Raunds long barrow the façade was composed of posts set in a continuous trench, whose terminals turned at right angles to create a semi-enclosed space. This structure had stood as an independent entity for some while before the raising of the mound during the thirty-eighth century BC. Indeed, the posts had been removed and the façade trench had silted up, and was cut through by the revetment slot surrounding the barrow mound (Harding and Healy 2007: 73). The three-sided façade structure at Raunds would have been well suited to providing the context for performances of some kind, and in this condition it would have looked rather like the side, or gable wall, of a timber building. Where one of the enormous tree-trunks of the mortuary structure stood at the centre of the façade, it would surely have recalled the axial post supporting the roof-beam of a hall. This would only have enhanced the 'housiness' of the paired-post structures. Again, these structures were not always incorporated into long mounds: at Callis Wold 275 in Yorkshire and Grendon in Northamptonshire façade buildings were enclosed within a round barrow and a ring-ditch respectively (Coombs 1976: 130; Gibson 1985: 217).

At Giant's Hills 2 in Lincolnshire, the timber façade had been deliberately burnt down, and vegetation had colonized its bedding trench before the long mound was constructed over it (Evans and Simpson 1991: 8). The excavators argued that several centuries had passed between the construction of the façade and mortuary structure, and the deposition of the human bone assemblage and the raising of the mound (Evans and Simpson 1991: 42). The façade at Willerby Wold had also been burnt, but as a separate operation from the firing of the chamber; that at East Heslerton was destroyed by fire, while the palisade was left to rot; the façade at Haddenham was partially dismantled before burning (Manby 1963: 177; Vatcher and Vatcher 1965: 50; Evans and Hodder 2006: 88). The sequences differ, but they demonstrate that façade structures were quite distinct entities, with functions and histories of their own, rather than simply a contributory stage in the creation of a long barrow. Destruction by fire often marked the point at which the use of the façade as an independent structure came to an end: another point of comparison

with the timber halls. While post-façades were presumably used for a more restricted set of activities than halls, they none the less combined the functions of screening and secluding one area of space, while framing interactions in another area in such a way that they could be witnessed by large numbers of people. As such, they differentiated the area occupied by the post-shrine, and subsequently the mortuary deposit, from a more public arena. Presumably, then, access to the remains of the house ancestors was socially divided.

An affinity with the timber halls was expressed in a slightly different way in the case of the Street House cairn. Here, an avenue of posts converged on the façade, which was itself a U-shaped structure, with 'horns' flanking the forecourt space (Vyner 1984: 155). This arrangement recalls the aisle posts, roof post and gable wall of a building, so that entering the forecourt space would have evoked the experience of moving within a massive wooden hall. Similar avenues or short 'porches' composed of paired posts were identified at Fussell's Lodge, Wayland's Smithy, Gwernvale, and at Kilham, where the uprights extended for 18 metres to the east of the façade (Manby 1976: 126). The connection with halls was still more explicit at Nutbane, in Hampshire, where the space in front of the mortuary structure had actually been occupied by two successive roofed timber buildings. The later of these was integral to a post façade, whose terminals were angled back, away from the forecourt (Morgan 1959: 31). The first of the structures had been demolished, but the second was burnt down. These two façade buildings would have hidden from view the two large 'shrine' postholes, which were amongst the earliest structural components on site. These posts established the space for a linear chamber, although it is unclear whether the upright in Hole IV had been removed before the introduction of the burials (Morgan 1959: 22; Liversage 1992: 82). The chamber was enclosed first within a small ditched enclosure, and later a fence. This was left unburned when the forecourt structure was deliberately fired (Noble 2006a: 90).

The erection of paired posts, the incorporation of ancestral remains, and the construction and burning of post façades all serve to relate the practices that took place before the building of earthen long mounds to wooden halls and houses, and to the foundation of house societies. This casts the deposition of artefacts at these sites in a new light. At a number of sites, pottery vessels or sherds were deliberately placed, perhaps smashed, against the façade posts. Sometimes, these were complemented by quantities of animal bones. The preponderance of plain Carinated Bowl in such contexts has been noted, and indicates that these activities were concentrated in the earliest centuries of the Neolithic (Kinnes 1992: 109). At Haddenham, for instance, a Carinated Bowl vessel was found beside one of the uprights of the post façade, and contrasts with the decorated Mildenhall pottery recovered from other contexts on the site (Evans and Hodder 2006: 160). Similar material was encountered in equivalent positions at Hanging Grimston, Willerby Wold, Street House, and at Pencraig Hill, where there was strong circumstantial evidence that one pot had been broken against the screen trench (Manby 1963: 184; Vyner 1984: 156; Lelong and MacGregor 2007: 37). It is significant that these depositional acts took place exclusively in the forecourt, and not in the immediate area surrounding the chamber itself. Perhaps they indicate that the collective consumption of food took place in this hall-like space, but the deliberate destruction of the vessels suggests a kind of offering to the dead, or to the corporate spirit

of the house itself. As in many of the ethnographic examples cited in the previous chapter, these activities might have been understood as ‘feeding the house’, contributing to its life-force or spiritual energy. In any case, the incorporation of pottery vessels and food remains into the fabric of the developing monument would have added to the sense in which it embodied the community’s history and identity.

Once the mortuary structure was sealed, and in some cases burned, the façade dismantled or set alight, and the mound raised up over the various structural remains, it was often revetted within a palisade of timbers set in a narrow trench, as at Kilham, Fussell’s Lodge, Raunds, and Willerby Wold. This is another feature that would have given the resulting structure a distinctly house-like appearance. However, it is important to underline the point that long barrows need not be understood as a ‘house of the dead’, which stood in opposition to ‘houses of the living’. They were not representations of houses, but served some of the same functions as houses. In house societies, the presence of ancestral remains inside a building does not necessarily transform it into a tomb. Rather, it authenticates the structure as a vessel that maintains the identity of the group and safeguards the integrity of its collective property across the generations. In building these various shrines, screens, and chambers, people were not just creating an imposing container for their dead, but doing the work of bringing new kinds of communities into being.

LONG CAIRNS

The examples of Burn Ground and Coldrum show that long cairns may have been amongst the earliest Neolithic monuments built in Britain. We have seen that in continental Europe both earthen long mounds and long cairns were in existence before the inception of the British Neolithic, and in the British context the two appear to have emerged alongside each other. These were separate but related forms of architecture, and perhaps different ways of achieving comparable objectives. The principal distinction that we might wish to draw is that long cairns generally contained orthostatic chambers that remained accessible for a considerable time after the cairn was piled up around them, while earthen long barrows were often built over the remains of earlier structures and deposits, and drew the primary activity on a site to a close. None the less, the two monumental forms appear to have drawn upon and referenced each other in various ways. We have pointed out already that the addition of concave façades to long cairns was a predominantly British and Irish innovation, but other commonalities in form and practice can also be identified. In Chapter Seven we described the pre-cairn activities at Ascott-under-Wychwood in Oxfordshire, and the possibility of a degree of continuity between the timber structures and the architecture of the cairn was considered. In one of the possible variants of the chronology for the site, human remains began to be deposited in the cist-like chambers in the middle decades of the third millennium BC, but the primary mound was not constructed around the cists until about 3700 BC (Bayliss et al. 2007: 38). This is an interesting prospect, because it implies that the cists would have stood as a pair of

free-standing structures for a period of some decades (Benson and Whittle 2007: 86). Each of these would have been composed of a box-like arrangement of two adjacent cells, defined by stone slabs. As such, the Ascott cists were very similar to the bipartite timber chambers discussed above, found beneath earthen long mounds. The human remains recovered from these cists had been subject to very elaborate treatment. Over a period of between 50 and 140 years (probably 75 to 110 years), both complete and incomplete bodies had been deposited and repeatedly reorganized (Bayliss et al. 2007: 37). It seems possible that, as amongst the timber chambers, the spatial division of the cists facilitated these operations.

The comparison between timber and stone chambers is equally pertinent in the case of Cairnholy I in Dumfries and Galloway (Fig. 10.7). Sheridan (2006: 110) makes the pertinent observation that slab-built chamber and orthostatic façade in the terminal of the cairn at Cairnholy are virtually a translation into stone of the structural elements of an earthen long barrow, while Masters (1983: 106) suggested the more specific comparison with the timber structures at Lochhill. The Cairnholy chamber is strictly a linear box chamber comparable to that at Col-drum, with tall uprights at either end, coupled with an antechamber that could have been entered between a pair of portal stones (Piggott and Powell 1949: 116). As with the bipartite timber chambers, it would not have been possible to move between chamber and antechamber. The portals were integral to the façade, another point that invites comparisons with timber structures such as that at Haddenham (Piggott and Powell 1949: 112). Sherds from a Carinated Bowl vessel were found near the north portal, suggesting that the monument may have been relatively early in date, and perhaps one of the earliest of the Clyde tombs of western Scotland, most of which have a rather different and distinctive form of segmented chamber. However, we should continue to be cautious concerning estimates of date based on artefact typology. While it may be that Cairnholy I was



Fig. 10.7. The chamber of the long cairn of Cairnholy, Galloway (photo: author)

constructed in the thirty-seventh century BC or earlier, confirmation of this should ideally be sought in radiocarbon dating, particularly given that sherds of Peterborough Ware were found within the forecourt blocking (Piggott and Powell 1949: 114). Noble (2005: 28) proposes that the antechamber at Cairnholy might have been a later addition to the inner cell, and this raises the possibility that, like the Ascott cists, the chamber could originally have been a free-standing entity. This would effectively have been a stone equivalent of the post and plank linear mortuary structures. Building such a chamber in stone rather than timber indicates a slightly different strategy: to create a permanent and changeless memorial to the coming-into-being of a social collectivity, rather than implying a living, organic entity (Scarre 2004: 151).

We saw in Chapter Seven that several long cairns, including Hazleton and Ascott, had been preceded by wooden buildings, screens, or façades. The buildings in the forecourt area at Gwernvale are a case in point. These have been interpreted as unexceptional dwellings, later commemorated by the construction of a tomb, or as 'ritual' structures that anticipated the monuments. The argument presented here removes the need to make such a distinction, since both 'tombs' and 'houses' were primarily the material presences that gave enduring substance to emerging social groups. At Gwernvale, human skull fragments were recovered from the postholes and slots of the northern timber building (Britnell and Savory 1984: 52). As places fit for the deposition of ancestral remains, the change from 'house' to long cairn was perhaps one of degree rather than of kind.

CONTINENTAL CONNECTIONS

More than three decades ago, Torsten Madsen pointed to the very precise similarities that could be identified between earthen long barrows in Britain and Denmark (1979), and we have also seen that British long cairns have affinities with structures in various parts of France. Two principal mechanisms have been proposed to account for these connections: either migrant populations brought their traditions of monument-building with them to Britain, or indigenous people emulated existing barrows on the other side of the Channel, quite possibly with the assistance of allies, recruits, or affines familiar with the skills of construction involved. The likelihood that barrow-building was intimately connected with the formation of property-holding social groups supports the latter view, since it explains why a particular kind of architecture should have become attractive to native people at a specific point in time. In southern Scandinavia, earthen long barrows are associated with TRB pottery, while the Carinated Bowl vessels found within British long mounds are very different, and closer in character to ceramic styles found in northern France and Belgium (see Chapter Eleven). The comparative scarcity of Neolithic long mounds in areas such as Picardy and the Pas-de-Calais has often been remarked upon. Sheridan (2006: 108) notes the existence of a long monument at Ottenburg in the Scheldt Basin, but as this is so far unexcavated its date, morphology and cultural associations are unknown. Further south, in the Paris Basin, long mortuary enclosures of Michelsberg affinity are known at Vignely (Chambon and Lanchon 2003: 171) and Beaurieux 'La Plaine' (Colas, Baillieu, and Naze 2008). However, these are only very broadly related to the British long mounds, and are apparently no earlier. By contrast, there are sometimes striking (if

predominantly formal) similarities between British and TRB long barrows: Kintore ST06 and Rude (Madsen 1979: 316; Cook and Dunbar 2008: 38) (Fig. 10.8), for instance, or Pencraig Hill and Dölauer Heide tomb 6 (Lelong and MacGregor 2007: 34; Rzepecki 2011: 71). It may be that long barrows similar to those in Britain will eventually be discovered in the Franco-Belgian coastal area, but at present the evidence better supports the view that the architectural and ceramic aspects of the primary British Neolithic drew upon a number of separate sources. In other words, the process was one of hybridization and *bricolage*, rather than the relocation of an integral and sutured cultural entity.

Madsen's article pointed in particular to the close parallels between the chamber structures found in British and Danish long barrows, while the use of rectilinear timber palisades as an element of mortuary architecture was common throughout the TRB province (Rzepecki 2011: 91). Madsen identified a number of different chamber types, of which the Konens Høj chambers had upright split posts at each end, and had often been destroyed by fire (Madsen 1979: 309) (Fig. 10.9). More of these have come to light in recent years, distributed as far south as Schleswig-Holstein (Midgley 2008: 17). A good example is the long mound at Asnaes Forskov, which contained a mortuary structure composed of two timber uprights and plank walls, resting on a dry stone plinth (Gebauer 1988). In some cases in Denmark, tall upright stones were substituted for one or both of the split posts, strongly recalling the arrangement at Cairnholly I. There are strong indications amongst the north European long barrows that timber and stone versions of the same kinds of structure were to some extent interchangeable. Rectangular stone chambers like those at Dalladies, Pitnacree, Lochhill, Slewcairn, and Raunds are comparable to the Skibshøj and Troelstrup type graves, which were open at one end (Madsen 1979: 299). Since Madsen's publication, a number of long barrows have also been identified in southern Sweden. The long mound at Jättegården, for example, was without a chamber, but had a burnt façade of timber posts, against which pottery vessels had been deposited (Larsson 1992: 53). At Oxie, near Malmö, a linear mortuary structure with burnt timbers was identified, although it was not clear whether any long mound had been present (Larsson 1980). Also near Malmö, the site of Almhov revealed a series of long barrows with timber façades, containing linear graves with stone surrounds. The largest of these structures produced a date in the thirty-ninth century BC (Gidlöf 2006: 26, Nilsson and Rudebeck 2010: 142).

As in Britain, some of the Scandinavian long barrows appear to have had very lengthy sequences of activity. A case in point was Bygholm Nørreremark, where the linear timber chamber was eventually replaced by a stone structure, in a sequence rather similar to that at Dalladies. More importantly, the wooden chamber at Bygholm Nørreremark was constructed between two posts, which had originally formed part of a line of four uprights. These four timbers had made up the axial posts of a house that pre-dated the barrow (Liversage 1992: 81). Here, the close relationship that we have already identified between 'post shrines', linear chambers, and houses is especially striking. The similarities between houses and barrows are also evident in other aspects of the Scandinavian material: burnt façades and screens in transverse bedding trenches, and the trapezoidal palisades revetting the mounds at Bygholm Nørreremark, Teglværkgården, and Harreby (Madsen 1979: 318). However, while there are indications that the linear timber

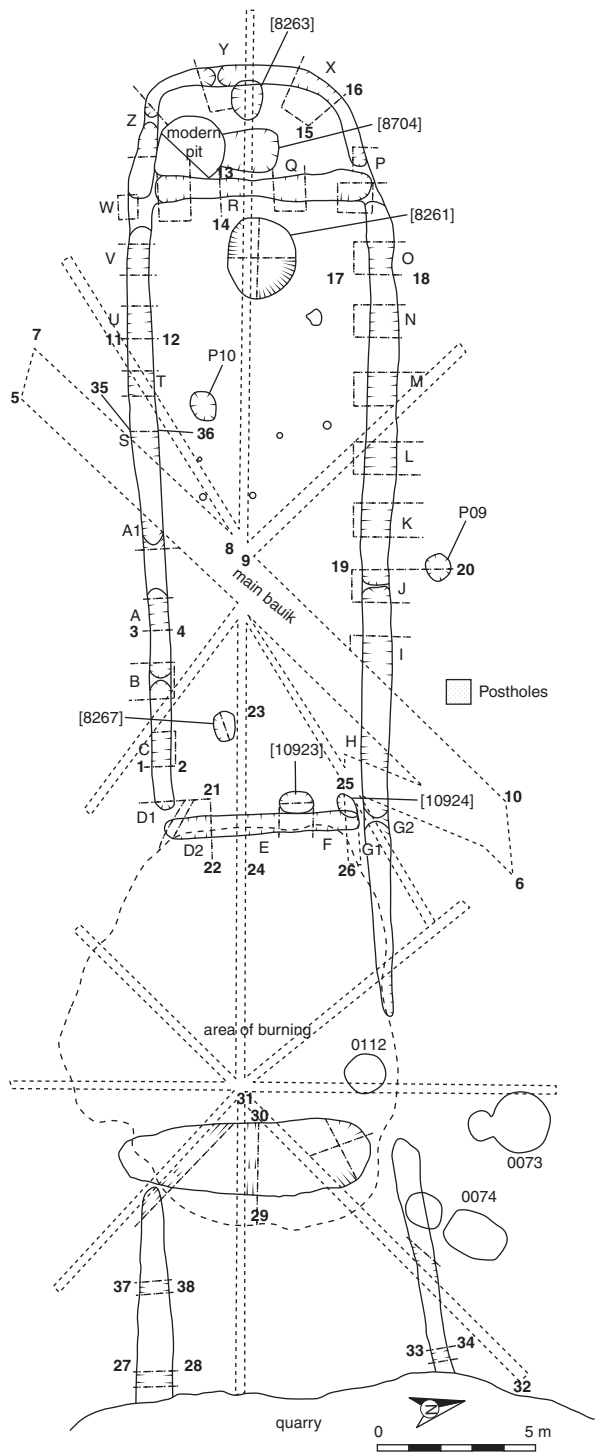


Fig. 10.8. Forest Road, Kintore: general plan of ST06 (from Cook and Dunbar 2008, with the kind permission of AOC Archaeology)

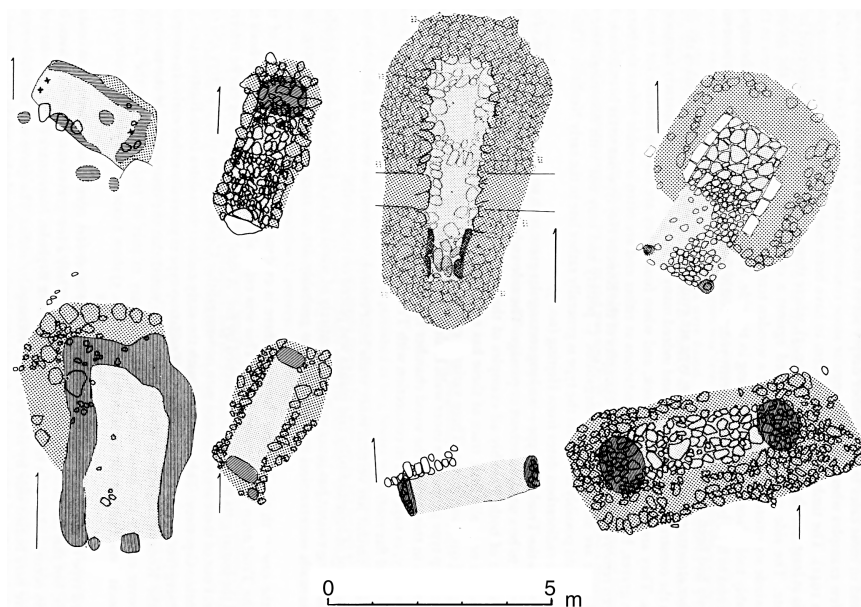


Fig. 10.9. Scandinavian graves and mortuary structures from Rimsø, Hejring, Troelstrup, Skikshøj, Rustrup, Brøndum, Søgård, and Konens Høj (from Madsen 1979, with the kind permission of the Prehistoric Society)

chambers might ultimately have been developed out of the plank-lined pit-graves beneath long mounds in Kujavia, Pomerania, and Moravia (Midgley 2005: 99), the Danish and Swedish long barrows are not appreciably earlier than those in Britain. The dates for Almšov, for instance, are amongst the earliest in Scandinavia. Perhaps, then, these very similar sets of practices of construction, deposition, destruction, and burial emerged out of inter-regional exchange and interaction, rather than simply being transferred from one region to another.

TIMBER ALIGNMENTS AND CURSUS MONUMENTS

Throughout this chapter we have argued that, in some ways, long barrows and long cairns were socially equivalent to halls and houses. Although the range of events and activities that took place at each might have differed, the essential role as a stable material referent that conveyed collective identity and property across the generations was identical. It is therefore highly significant that another group of monuments dating to an early stage in the British Neolithic has already been compared with the timber buildings of the same period. Cursus monuments, massive linear ditched and banked enclosures, conventionally date to the period between 3500 and 3000 BC, the Middle Neolithic. However, these earthwork enclosures were preceded by rather smaller structures, up to about 500 metres in length, defined by lines of evenly spaced timber uprights or pits. These pit and post-defined cursus monuments are primarily concentrated in the Scottish lowlands (Brophy 1999: 119). Although much larger than the timber halls, they share

their rectangular plan, and when composed of oak posts have often been wholly or partially destroyed by fire (Noble 2006b: 69; Thomas 2006: 230). Moreover, just as halls such as Claish and Balbridie had internal spaces that were divided by a series of transverse partitions or screens (Fairweather and Ralston 1993; Barclay, Brophy, and MacGregor 2002: 107), so post-built cursus monuments including Milton of Guthrie, Balneaves Cottage, and Douglasmuir also have one or more lateral divisions (Brophy 1999: 127). As with the stone and wattle bays that structured long barrows and cairns, these may indicate the participation of different social segments in the construction or use of these monuments.

Post- and pit-defined cursus monuments were often enormous, unroofed, enclosed linear spaces. Arguably, they represented an abstracted and stylized version of certain aspects of the timber hall. Rather than a building that could be permanently or temporarily occupied, post-built cursus monuments emphasized the creation of a space in which people could gather in large numbers, through the collective labour of setting substantial timbers upright in sockets. It may not be too far-fetched to note that this rendering of the rectilinear form was achieved using media that had been employed during the British Mesolithic: discontinuous alignments of uprights or holes. In some cases, the enclosed area might have been a temporary phenomenon, as demolition could have followed soon after construction. This short use-life, coupled with the prodigious scale of the monuments and the spectacular character of their destruction, suggests that post-enclosures may have been a development of the theme of a hall that persisted in the collective memory of a community, rather than as an enduring material presence. The detailed evidence from these sites echoes the internal organization of the halls in a variety of ways. At Douglasmuir in Angus, one of the smallest of the timber cursus monuments, a bipartite rectilinear enclosure composed of closely set posts had been partially destroyed by fire (Kendrick 1995: 32). One of the most striking aspects of the Douglasmuir structure was that the northern compartment contained a large, axially set pit (BEA), which had at some point held a wooden post (Fig. 10.10). This free-standing upright is immediately comparable with the axial posts at Claish, Warren Field, and Balbridie, as well as (in a more general way) the split trunk mortuary structures. Once again, the insertion of a large oak beam into the ground was employed to evoke themes of foundation and unity.

At Cowie Road, Bannockburn, near Stirling, two separate trapezoidal enclosures were set end-to-end. One of these was defined by uprights posts, and the other by pits, which showed evidence for repeated recutting and reshaping, as well as intense burning (Rideout 1997: 36). The pit-bounded Enclosure 1 was apparently the earlier of the two, and the second phase of activity within the pits produced radiocarbon dates in the interval 4000–3800 cal. bc. However, these determinations were made on oak charcoal, possibly from heartwood, and may not be entirely reliable (Ashmore 2007: 250). None the less, the pits produced sherds of Carinated Bowl pottery, indicating that the enclosure was probably in use during the earlier part of the fourth millennium bc. A slightly different variant of the post cursus was found at Castle Menzies in Perthshire, where an enclosure 130 metres long, with sinuously curving sides terminated at its eastern end by a concave façade (Halliday 2002: 14). The postholes of the façade were distinctly larger than those of the sides of the enclosure, giving the impression that the architecture was intended to create a clear focal area. The structure had been neither burned nor recut, but a

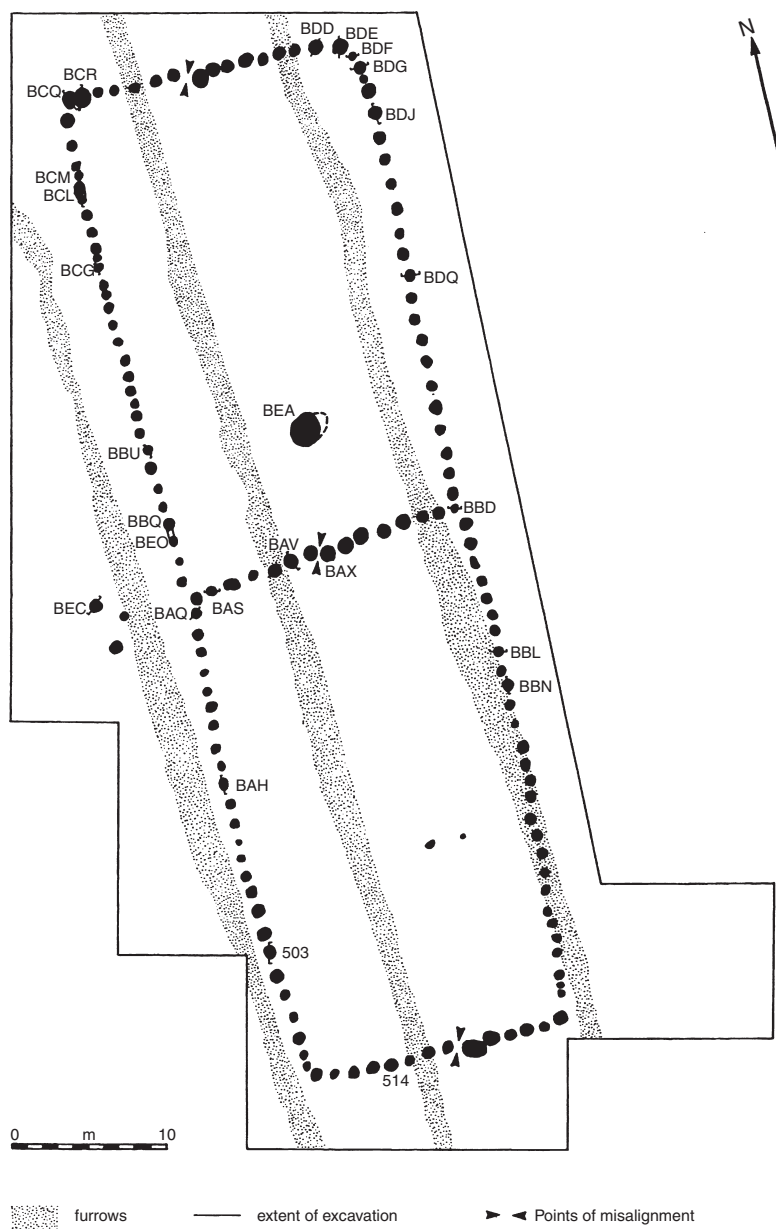


Fig. 10.10. Douglassmuir post-defined cursus monument (after Kendrik 1995, with the kind permission of the Society of Antiquaries of Scotland)

series of radiocarbon dates gave a range of 4040–3660 cal. bc. The presence of the façade and the similarity of the enclosure at Castle Menzies to the palisade enclosures that revetted some long barrows hints at a degree of overlap or mutual reference between different classes of monuments. Something rather similar was



Fig. 10.11. The terminal of the Dunragit cursus, showing postholes graded in size as they approach the entrance (photo: author)

indicated at the trapezoid post-enclosure at Dunragit in Dumfries and Galloway (Fig. 10.11). The postholes at Dunragit were graduated in size, so that thicker and taller posts would have stood at the eastern terminal, forming a distinct façade: a phenomenon also observed at Upper Largie in Argyll (Thomas 2006: 230; Cook, Ellis, and Sheridan 2010: 194), and comparable with the larger posts around the entrances of the timber hall of Warren Field. The Dunragit enclosure was a single-phase construction, and had been burned down with a fire so intense as to scorch the subsoil surface surrounding the postholes. A relatively accurate radiocarbon determination from short-life hazel charcoal placed the Dunragit structure at 3695–3645 cal. BC (SUERC-2103). This is broadly comparable with the cluster of dates around 3950–3650 cal. BC from the timber cursus at Nether Largie (Ashmore 2007: 249; Cook, Ellis, and Sheridan 2010: 174).

Recent excavations have demonstrated that amongst the post cursus monuments *destruction* was virtually as important as construction. At Holm Farm near

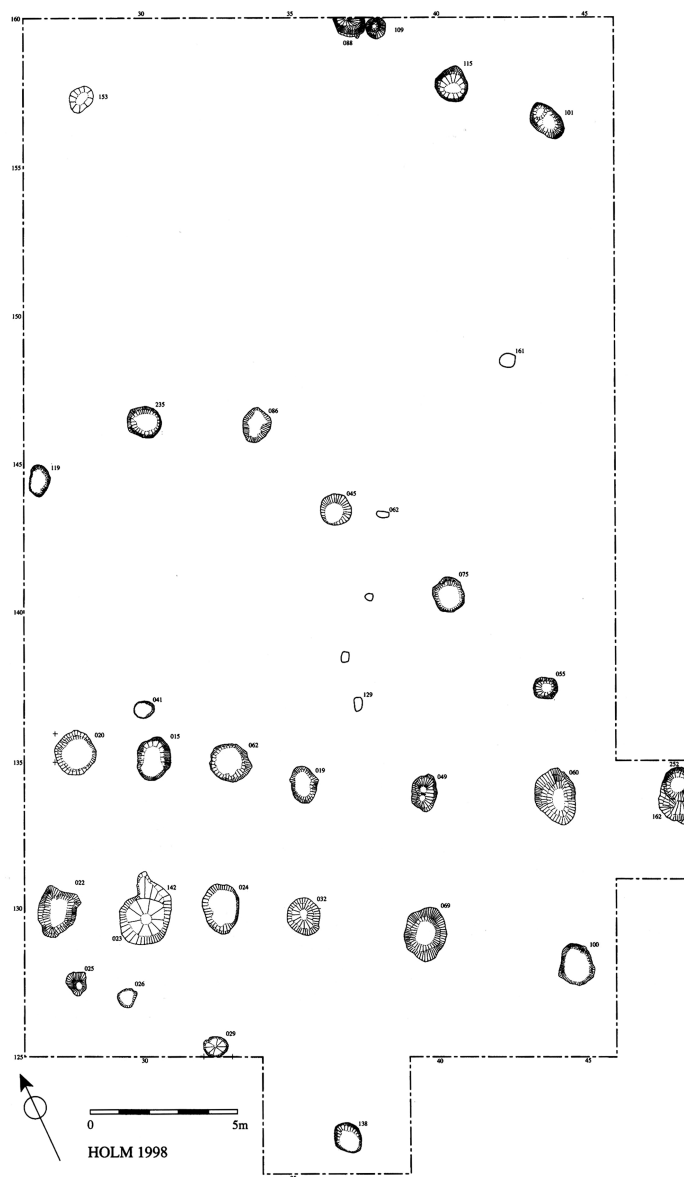


Fig. 10.12. Plan of the post-defined cursus at Holm Farm, Dumfries. The larger features to the south are a later pit alignment, those to the north represent the multiple lines of Neolithic posts

Dumfries, what appeared from the air as a confused mass of cut features resolved into a series of separate phases of a rectilinear or trapezoidal enclosure, superimposed upon one another (Thomas 2007b: 244). Each phase of building had been followed by extensive burning, to the extent that the timbers were transformed to charcoal deep into their sockets (Fig. 10.12). Each posthole held as many as

three or four separate post stumps, suggesting that attempts had been made to re-establish the enclosure on its original site on a number of occasions. However, given that only charred fragments remained, the monument repeatedly shifted its position across the flat gravel river terrace. Evidently, the activity at Holm was recurrent and episodic. Each event of building and destruction might easily represent a re-creation of the formation of a human community, followed by the consignment of the structure to memory. Five radiocarbon dates on oak sapwood, lacking tyloses, may be relatively accurate, and indicate a period of use over some decades within the thirty-eighth century BC (Ashmore 2007: 249).

The results from Holm are comparable with those from the nearby site of Holywood North (Fig. 10.13). Here a series of settings of posts were later enclosed inside one of two large ditched cursus monuments. The western terminals of both the post-defined and the ditched monument enclosed a small hillock, on which a series of very large oak posts had stood on a single point, with the result that the socket, F224, had been repeatedly recut (Fig. 10.14). At least one of these colossal posts had burned in situ and collapsed under its own weight, resulting in a great mass of charcoal filling the pit. This had been cut through by one of the postholes of the cursus, and it is unclear whether any of the very large posts had predated the enclosure, or whether they had always stood at the apex of the curved terminal of the post-structure. The post-cursus itself had been built and destroyed on at least four separate occasions, individual posts having been withdrawn or burnt. In the final phase, the majority of the posts were set alight, before the traces of the structure were enclosed within the surrounding ditch and rendered inaccessible (Thomas 2007b: 237). A hazelnut shell from one of the post-pipes



Fig. 10.13. Holywood North cursus (photo: author)

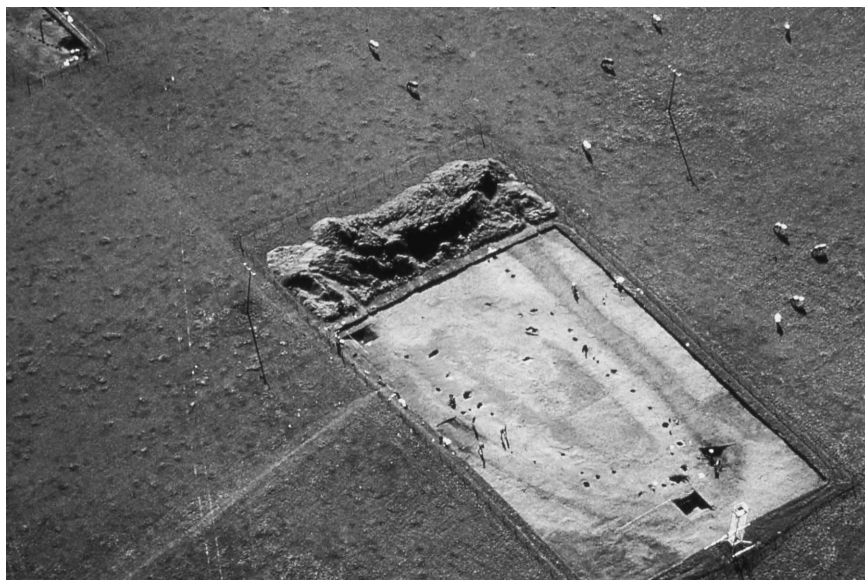


Fig. 10.14. Hollywood North cursus from the air (photo: Gordon Maxwell)

of the timber enclosure gave a date of 3778–3698 cal. BC (SUERC-2115). The same feature produced sherds of Carinated Bowl pottery, while fragments of a thicker, heavy-rimmed vessel came from the ditch, confirming its later date (Thomas 2007b: 237).

Overall, the pit and post cursus monuments appear to date to the thirty-eighth and thirty-seventh centuries BC, not appreciably later than the timber halls in Scotland, but more recent than buildings such as White Horse Stone and Yarnton. They arguably represent an alternative way of achieving the same end as the halls, deploying human labour to create a collective object of affiliation. But while halls represented meeting places and stores of corporate wealth, and long barrows incorporated the remains of the founding ancestors, post enclosures developed the theme of the house by creating a rectilinear space that could be occupied by a large number of people, and whose construction was repeatedly reprised and re-experienced. In all of these monumental forms, memory was of great significance, probably because early Neolithic societies in Britain were not generally co-resident throughout the whole of the year. If a permanent face-to-face community did not exist on a day-to-day basis, it would be necessary to construct one in imagination, tradition, and memory. Repetition of bodily practices, shared labour and consumption of food, and the spectacular destruction of architecture are all strategies of memorialization. But a rather different form of memorability was to be achieved through the construction of megalithic tombs.

MEGALITHIC TOMBS

While recent work has provided the foundation for a more precise chronology of long barrows and long cairns in Britain, the same cannot yet be said for other kinds of megalithic tombs. There are a number of reasons for this. Being distributed principally in the areas bordering on the Irish Sea, megalithic chambered structures are often found in areas with acidic soils, which do not preserve organic materials suitable for radiometric dating, other than charcoal. They generally contain few negative features that serve as traps for dating material, and in many cases the chamber contents have been cleared out in historic times, or have simply been exposed to the elements over the years following the denudation of the mound (Masters 1983: 108). The consequence of this situation is that our understanding of the development of megalithic tombs through time still relies heavily on typology. As a result, implicit models of architectural evolution and devolution similar to Grimes' sequence for Cotswold-Severn cairns (discussed earlier in this chapter) remain influential. For example, in discussing the development of passage graves in Scotland, Stuart Piggott and Audrey Henshall originally proposed gradual devolution from the sophisticated founding monument of Maes Howe in Orkney, while Colin Renfrew argued for an evolution from small, simple tombs to large and complex ones (Masters 1983: 104). In arguments like Renfrew's, rising population, political centralisation and competitive emulation provide a rationale for the increasing scale of monuments over time. But models of endogenously evolving typological development are more difficult to sustain. The general disadvantages of such schemes have often been commented upon: they privilege the final form of the monument over the process of construction, they abstract the architecture from topography and landscape setting, they neglect the status of the structure as a place of human life and action, and they reduce individual sites to examples of 'types' (Richards 2004: 72). In seeking to identify architectural form with chronology, typological schemes render constructional techniques, ground plans and decorative elements as neutral and equivalent traits (Brophy 2005: 3). But in the British context, other problems exist with these models of 'unfolding' development, driven by some form of dynamic that is internal to monumental traditions. For as we have already seen in the case of long cairns and long barrows, we are not dealing with processes of change that took place in isolation, but with emulation and hybridization, and with the exchange of architectural techniques and devices between regions. In other words, one kind of tomb did not spontaneously morph into another; constructional elements were drawn upon from disparate existing sources, including continental ones, which served as stylistic reservoirs. These were then combined to achieve desired effects. Built structures are unlike living organisms in this respect: each new building can rework a body of existing architectural possibilities, while adding innovations.

Another reason to be cautious in relying on typology as a form of dating lies in the disparity that we have already noted between the short use-lives of individual funerary monuments and the relatively long period over which structurally similar tombs were built. As we have seen, morphology alone provides little indication of the relative dates of Burn Ground and Wayland's Smithy, or Fussell's Lodge and Haddenham. This is not to say that processes of gradual modification

over time cannot be observed in monumental traditions. But these will generally have been driven by changes in social circumstances and requirements, and it is incumbent on us to identify these rather than assuming seamless progressive development. In a recent discussion of the megalithic monuments of the Irish Sea zone, Cummings (2009: 65) argues that we should step back from a myopic focus on the precise structural similarities and differences between tombs, and concentrate instead on the overall impression that a structure makes in the context of its immediate surroundings. It is debatable how far the landscape setting was deliberated over in advance of construction, and how far it came into focus through the process of building itself (Barrett and Ko 2009: 284), but clearly the architecture cannot be addressed in isolation. To this we might add a concern with practices of construction, and an evaluation of the potential of the spatial organization of the monument to facilitate particular patterns of movement and interaction. In chronological terms, Cummings (2009: 183) came to the unexpected conclusion that megalithic tombs in the west of Britain may belong to a relatively mature phase of the Neolithic, and may have only tangential relevance to the period covered in this book. This suggestion provides a useful point of departure from which to address an uneven and ambiguous set of evidence.

One group of megalithic structures that has sometimes been identified as potentially of early date are the portal dolmens found distributed around the southern part of the Irish Sea, in Cornwall, Wales, and Ireland (Fig. 10.15). Although the capstones of these monuments are sometimes massive, they are relatively simple constructions distinguished by an upright 'portal stone' flanked by a pair of orthostats, and surmounted by a capstone, often set at an angle (Whittle 2004: 81). Sheridan (2004: 16) makes the useful suggestion that they may represent a rendering in stone of the box-like linear timber chambers of earthen long barrows, which we have already discussed. This is significant because the defining feature of the dolmens is that they represent closed chambers, without a formal means of access following construction, even if many of them have subsequently been repeatedly re-used. The simple, closed box set in a vestigial cairn suggests an emphasis on the event of building and initiation, as opposed to the provision of a space intended for extended use. It also indicates a concern to explore the possibilities of local materials and conditions, drawing on established techniques and structural devices, but transforming their significance and potential in the process. Such contents as are found inside portal dolmens may consequentially represent foundation deposits. The presence of sherds of Carinated Bowl pottery associated with portal dolmens at Pentre Ifan, Carreg Coetan Arthur, Dyffryn Ardudwy, and several sites in Ireland hints at an early fourth millennium BC date, although this need be no earlier than the thirty-seventh century BC (Kytmanow 2008: 93). Dyffryn Ardudwy in Gwynedd is a particularly important site, in that the carinated vessels were deposited in a pit immediately in front of the portal stone, within a forecourt defined by a small oval mound (Powell 1973: 8). This entire structure was later enveloped within a larger sub-rectangular cairn, with a new bipartite chamber internally divided by a sillstone (Powell 1973: 12). The pit, which contained sherds from four different vessels, was sealed beneath the blocking of the forecourt, and the overall sequence provides a strong indication that portal dolmens were being constructed at least as early as some long cairns (Figs. 10.16 and 10.17).



Fig. 10.15. Maen Y Bardd, a portal dolmen on the Llyn peninsula, Wales (photo: author)

In western Ireland, the site of Poul nabrone has provided one of the most extensive series of radiocarbon dates from a portal dolmen, yet the results are frustratingly ambiguous. Human bones from inside the chamber produced an estimated date of 4055–3785 cal. BC (at 68 per cent confidence), but these remains were disarticulated, and older bones were stratified above more recent ones. This may mean that the remains had been curated elsewhere before deposition, and do not accurately date the dolmen. Other human bones recovered from cracks in the limestone pavement on which the chamber was constructed produced the later date of 3165–2830 cal. BC (68 per cent) (Kytmanow 2008: 103). Elsewhere, radiocarbon results for portal dolmens at Carreg Coitan, Balacoghy, Sperris Quoit, and Zennor Quoit have all suggested dates in the middle of the fourth millennium BC (Kytmanow 2008: 112). There is at present no conclusive evidence placing any portal dolmen in the first quarter of the fourth millennium BC, although this is not to say that such evidence will not eventually come to light.

Even more contentious than the dating of portal dolmens is that of the earliest passage tombs in Britain and Ireland. While portal dolmens appeared to have emerged in the Irish Sea zone, passage graves were clearly derived from continental Europe. In northern and western France, passage graves developed around 4300 BC or earlier (Cassen 2006: 24). There is a strong argument that in Ireland at least, passage tombs became larger as time progressed, a process that may have been driven by emulation and competition (Sheridan 1986). But it is less clear that simpler architectural forms were always and everywhere earlier than more complex ones (Bergh 1995: 109; Waddell 1998: 77). The possibilities of chronological overlaps, conservative maintenance of form, and conscious archaisms must be very considerable where processes of copying and deliberate referencing are

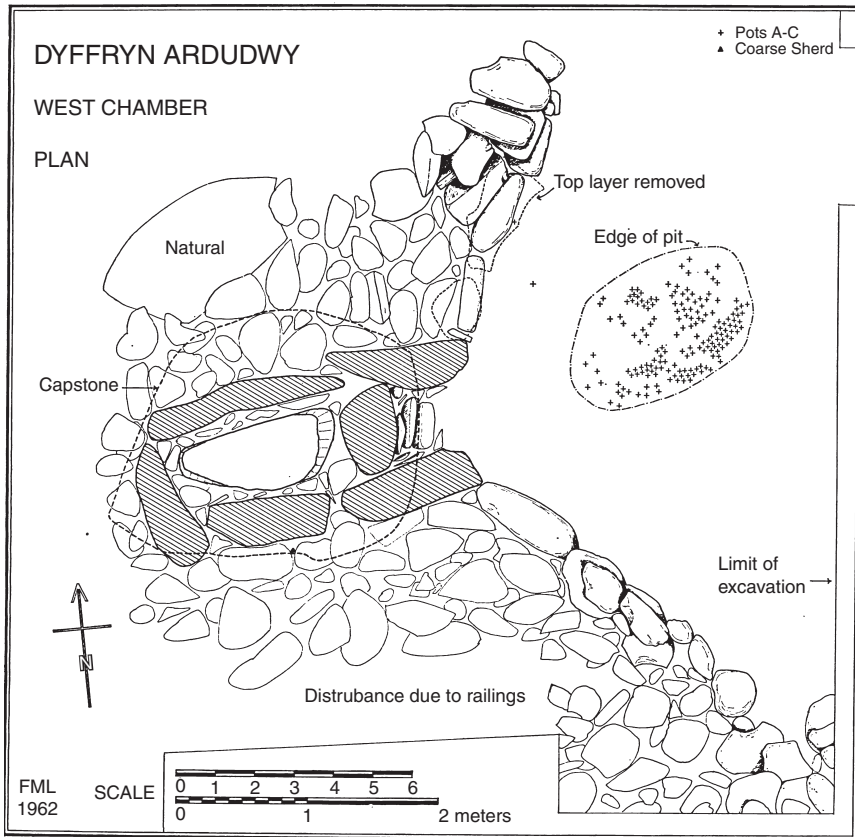


Fig. 10.16. Plan of the western chamber of Dyffryn Ardudwy (reproduced by kind permission of the Society of Antiquaries of London from *Archaeologia* 54, Powell, T.G.E., 1973, Fig. 8 © reserved)

involved. The notion of a distinctive group of early passage tombs dispersed across Atlantic France, Ireland, and western Britain was originally proposed by Frances Lynch (1975: 26). These were identified as having small polygonal chambers and short passages. At sites such as Tulach an t'Sionnaich in Caithness, these small tombs appeared to represent the primary element in multi-phase structures, and this is taken as evidence for their primacy within local sequences. We will discuss the issue of multi-period megalithic tombs later in this chapter. Later, Sheridan would argue that the geographical distribution of simple passage tombs arose from a diasporic movement of population from southern Brittany, which was also responsible for the occurrence of late Castelic style pottery at Achacreebeag (see Chapter Five). Sheridan dated this Atlantic tradition of small polygonal and closed chambers in passage tombs with or without a surrounding kerb to 4200–3900 BC (2006: 106). We saw in Chapter Three that one contemporary reading of Breton passage tombs views circular drystone chambers with corbelled roofs as earlier than polygonal and quadrangular chambers, while another sees them as



Fig. 10.17. The portal dolmen chamber at Dyffryn Ardudwy (left), incorporated into the later cairn with a larger chamber (right) (photo: author)

contemporary (Boujot and Cassen 1993: 484; Scarre 2011: 139). Yet neither view presents short passages as an especially early trait. Closed cists, generally found beneath long mounds, are a rather separate phenomenon (Cassen 2006: 23). So while the small passage tombs of the Irish Sea contain elements that can be paralleled in Brittany and Normandy, it is not clear that are typologically pegged to a precise chronological horizon. It might be more accurate to suggest that structural devices borrowed from Armorica were put to localized uses in Britain and Ireland. For instance, at the simple passage tomb of Carreg Samson and the portal dolmen of Pentre Ifan, Cummings (2009: 98) argues that the process of construction essentially consisted of the digging-out of a prominent large boulder, and its raising on supporting stones. If these large capstones were rocks that were already considered significant or even sacred, then the techniques and conventions of megalith-building were being adapted to more parochial value systems.

As with portal dolmens, definitive evidence for the early dating of passage tombs in the Irish Sea zone is still presently limited. In Ireland, Sheridan points to the predominantly coastal distribution of the smaller and simpler monuments (2003: 9), yet indications of their age are often circumstantial. At Druid Stone, near Ballintoy in County Antrim for example, the construction of the monument post-dated an occupation scatter including Carinated Bowl pottery, but the interval between the two is unknown. An extensive series of radiocarbon dates was acquired by Göran Burenhult during his two campaigns of excavation in the passage tomb cemetery of Carrowmore in County Sligo during the 1970s to 1990s (Burenhult 1980; 2001). However, of these only five were on short-life charcoal and one on human bone, the remaining thirty-one being on unidentified charcoal, potentially heartwood. Aside from the obvious danger of 'old wood effects', the

samples are often difficult to relate to constructional episodes, and in some cases may have been redeposited (Bergh 1995: 99–103). Amongst all of the tombs at Carrowmore the finds recovered from the chambers are exclusively of Middle Neolithic types, including Carrowkeel pottery, stone balls, and mushroom-headed antler pins, none of which are paralleled by Breton or Norman artefacts. Indeed, as Kytmanow (2008: 98) points out, there are no unambiguously Early Neolithic artefacts from passage tombs anywhere in Ireland. However, Sheridan points out that the objects from the Carrowmore tombs need not relate to their initial use, and primary deposits might have been cleared out at an earlier stage (Sheridan 2003b: 14). That every sherd and fragment of Early Neolithic cultural material was removed is not impossible, although it seems unlikely. Whittle, Healy, and Bayliss, (2011: 656) consider that the dates from Carrowmore 51 (Listoghil) and 56 are the most secure from the Carrowmore complex. On the basis of these two mounds and the dates from Newgrange, they conclude that passage tombs began to be built in Ireland between 3495 and 3285 cal. BC (at 68 per cent confidence). This presents good agreement with the other Irish passage tomb site for which extensive high-precision radiocarbon dates have been acquired, the Mound of the Hostages at Tara in Co. Meath, whose construction is set at 3210–3145 cal. BC (at 68 per cent confidence) (O’Sullivan 2005: 225).

Much of the dating evidence for ostensibly early passage tombs in England, Scotland, and Wales is no stronger. Carreg Samson in Dyfed is strictly a passage grave, having an accessible chamber and the merest hint of a passage, although in other respects it has closer affinities with the dolmens. The chamber produced sherds of a fine, plain, hemispherical bowl in a hard fabric (Lynch 1975: 23). Although this might be compared with vessels from elsewhere in Britain or the continent, it could probably be placed anywhere in the first half of the fourth millennium BC. Equally, Trefignath on Anglesey began its history as a small passage tomb with a polygonal chamber and short passage, and was later incorporated into a more extensive long cairn (Smith and Lynch 1987: 10). Fragments from ‘Irish Sea ware’ carinated bowls were recovered from pre-cairn contexts, and from the chamber of the second-phase monument. The radiocarbon date of 3948–3784 cal. BC (68 per cent confidence) is from charcoal found beneath the cairn (Smith and Lynch 1987: 74). If the pottery in the later chamber were residual, any early fourth millennium BC presence on the site might predate the tomb entirely.

One British passage tomb that is unquestionably early in date is that at Broad-sands in Devon (see also discussion in Chapter Five). This structure has a D-shaped chamber, a middling-sized passage, and a circular, kerbed cairn (Sheridan et al. 2008: 2). Two episodes of burial had taken place in the tomb, and the occurrence of small bones of the hands and feet indicate that entire fleshed human bodies were introduced to the chamber, before being disturbed at a later stage (Sheridan et al. 2008: 7). The probable date for the commencement of bone deposition probably fell within the thirty-eighth century BC, and as such Broad-sands is effectively the earliest securely dated passage tomb in Britain or Ireland (Sheridan et al. 2008: 16). Sheridan compares Broad-sands to the simple drystone passage tombs of Normandy, the Channel Islands, and Morbihan, and argues that the plain carinated pottery recovered from the site is more closely comparable with material from north-west France than the ‘true’ Carinated Bowls of

Michelsberg affinity (Sheridan et al. 2008: 18–19). How far this distinction can be sustained will be addressed in Chapter Eleven. A further comparison is offered with the drystone passage tombs apparently incorporated into Cotswold-Severn long mounds at Cow Common Round, Sale's Lot, Saltway Barn, Ablington, Tŷ Isaf, and Cefn Drum (Darvill 2004: 58). These are identified with an influx of continental population through the Severn Estuary in the early fourth millennium BC (Sheridan et al. 2008: 19). However, as with the 'rotunda graves' discussed in Chapter Five, it is hard to sustain a case that small passage tombs were constructed on the Cotswolds and in South Wales during a distinct horizon prior to the building of the long cairns. Given that Burn Ground, a long cairn containing neither rotunda nor passage grave, is the earliest known Cotswold-Severn tomb, the date of 3975–3675 cal. BC (at 68 per cent confidence) for the start of deposition of human remains at Sale's Lot places it no earlier, and probably later.

The question of rotunda graves and passage tombs in the Cotswold-Severn region bears on the long-established debate on the multi-period construction of megaliths. John Corcoran originally developed the multi-period hypothesis in reaction to observations made at the tombs of Tulach an t'Sionnaich, Tulloch of Assery A, and Balvraid (Corcoran 1972: 32). At each of these monuments, the final cairn appeared to envelop smaller megalithic structures, often with chambers, passages, and containing walls of their own, which were rendered redundant by the eventual configuration. Corcoran did not imply that there was necessarily a great depth of time between the different phases of construction, and it may be wise to make a distinction between 'multi-period' and 'multi-phase' architecture, the latter potentially being completed in years or decades rather than centuries (Henshall 2004: 82). In some cases, the primary elements of a monument could have been put in place with a clear idea of subsequent developments in mind, while in others the additions might have been unplanned and opportunistic (Masters 1981: 106). Perhaps because the Neolithic covers such an immense span of time, the understandable tendency has been to stretch the structural sequences of particular sites across generations. Similarly, while numerous high-quality excavations have unravelled the intricate life-histories of a series of megalithic tombs, these findings have sometimes been conflated to construct more generalized evolutionary schemes whose validity is open to question (Cummings 2009: 73).

A case in point is provided by the cairns of Mid Gleniron I and II, in Dumfries and Galloway. In both cases, the primary structures were small oval cairns enclosing simple, slab-built chambers. In the case of Cairn I there were two of these, one placed in front of the other. The northern chamber of Mid Gleniron I was rather like a stone equivalent of a timber mortuary structure, with its 'bracing stone' serving as an upright (Corcoran 1969b: 35). Trapezoidal cairns with concave forecourts were later constructed around the oval mounds, rendering two of the three chambers inaccessible (Corcoran 1972: 36). Cairn II had a new chamber entered through the façade, while a third chamber was constructed between the two oval cairns within Mid Gleniron I. The effect of the rebuilding would have been to create much more imposing structures, with a defined space for gatherings of living people juxtaposed to the chamber entrances. This indicates that the way in which the tombs were to be used changed in fundamental ways. Yet the unusual spatial relationship between the two primary cairns of Mid

Gleniron I must raise the question of whether it was always intended that they should eventually be enclosed within a single structure.

It may be our understanding of the Mid Gleniron cairns has been occluded by the identification of the primary chambers in their oval cairns as 'protomegaliths' (Sheridan 2006: 109). This was a concept introduced by J. G. Scott (1969: 181) as a means of explaining the emergence of the Clyde cairns of western Scotland. Scott argued that simple, box-like chambers had formed the fundamental building-blocks of megalithic architecture in western Britain, providing space for burial in the simplest way possible, but combined and elaborated to create progressively more complex structures (Corcoran 1972: 49). Where this scheme falls down is in its covert evolutionism, implying a dendritic pattern of development originating with the basic architectural unit, and thus requiring that simple tombs should generally be earlier than complex ones. As we have already argued, this need not be the case: simple and complex structural forms are likely to have coincided chronologically, since both simple and elaborate monuments already existed on the continent. At some sites, such as Camster Long in Caithness, it is conceivable that the enclosure of chambers within separate small cairns was simply a constructional device to secure their stability, and their enclosure within a larger mound was always intended (Masters 1997: 178). This may not apply to Mid Gleniron, where the initial chambers were hidden within the long cairns, but it may be a mistake to look for a 'protomegalith horizon' at the beginning of the Neolithic. Furthermore, the presence of small circular structures inside larger long cairns may sometimes have consciously sought to mimic or replicate the final form of continental monuments, with sequences that were abbreviated in comparison with their models (Scarre et al. 2003: 228). This may well have been the case with some of the Cotswold-Severn tombs, such as Tŷ Isaf, in which the stonework of the rotunda appears to be contiguous with that of the long cairn that ostensibly encloses it (Grimes 1939). Rather than following any universal 'simple to complex' sequence, megalithic architecture in Britain was probably diverse in scale and complexity from its inception, with rather little of it being attributable to the opening centuries of the Neolithic.

STRATEGIES OF REMEMBRANCE

The discovery of a growing number of 'Mesolithic monuments' demonstrates that the mobilization of considerable quantities of labour was not impossible for hunting and gathering communities in Britain. Yet the significant escalation of building of various kinds from the start of the Neolithic onwards tells us that something had changed. Structures with continental affinities began to be created from the start of the fourth millennium BC, and their numbers increased apace from the thirty-eighth century BC. Archaeologists have often understood monument-building as an index of population size or the growth of political hierarchy, a reflection of social conditions, or as the imposition onto the landscape of a pre-existing cultural order (Barrett and Ko 2009: 288). The opposite argument has been presented here: the building of timber halls, earthen long barrows, timber cursuses, and perhaps megalithic tombs as well may have made

use of skills, techniques, and structural forms that were inspired by continental contacts, but their deployment was part of the process through which new social realities were brought into being. Specifically, the inclusive webs of social relationships that characterized the Mesolithic were divided into bounded, property-holding collectivities through the emergence of distinctive material referents. Corporate wealth and shared identity now needed to be passed between generations, and the existence of durable architectural spaces and shared collective traditions, transmissible histories, and social memories made this possible.

The earliest Neolithic monuments are notable for their diversity, which can be attributed to the existence of multiple continental contacts and references. From the thirty-eighth century BC onwards the borrowing, hybridizing, mixing, and creation of new structural elements gave rise to discrete monumental traditions, some of which exhibited distinct regional preferences. Arguably, the escalation of construction at this time was fuelled by increasing competition between groups who had become thoroughly embedded in Neolithic ways of life. Some new kinds of monuments emerged in the insular setting, as with pit and post cursuses; others were adopted with little modification from Europe, as with passage tombs. Long barrows and long cairns fall somewhere between the two, mixing borrowed elements from a variety of sources. These new architectural spaces provided the contexts for new kinds of social conduct. Even before some of these locations were distinguished by the presence of conspicuous mounds and cairns, the construction of screens, façades, forecourt structures, and post alignments enabled the seclusion and division of social activity, and created conditions that made it easier for prescribed acts to be repeated. This architecture allowed human action to be made at once more memorable and more capable of recollection. In Paul Connerton's terms, these structures facilitated the reproduction of embodied memory (Connerton 1989: 72). But equally, once they ceased to be used in this way, the posts, pits, screens, and deposits became bound into the fabric of barrows and cairns which served as vehicles of collective history. As material mnemonics around which shared identities coagulated, long mounds were used to initiate memory in a different way from the less permanent structures that they replaced.

Among the most significant of these were the pairs of split posts that provided the foundation for linear timber mortuary structures. These, we have argued, were primarily shrines, whose cardinal role was to mark the place and time at which a corporate social entity came into being. Later, the upstanding posts would attract the remains of a group of founding ancestors, and finally be transformed into an enduring and changeless object of affiliation. These timber structures and the façade buildings connected with them had much in common with both wooden halls and post-built cursus monuments. All three were constructed almost exclusively from oak posts and planks, and it is probable that this particular tree was selected for its symbolic associations as well as its structural qualities. Individual timbers sometimes remained in use for long periods, and may have been dug out of their sockets and re-used, suggesting that they had taken on an association with the collective identity of a particular social group. Yet just as wood was sometimes curated, it was often destroyed by fire, and we have argued that dramatic destruction was a means by which timber buildings could be introduced into collective memory. In the case of wooden mortuary structures it also provided a means by which the bones of the dead could be physically fused with the material

embodiment of the community, most spectacularly so amongst the crematorium barrows of Yorkshire. In their architectural structure, too, the halls, cursuses, and long barrows shared a series of common elements: rectangular or trapezoidal forms, façades, post lines and avenues, lateral divisions and bays, paired posts. These commonalities arguably relate to the overlapping roles of these structures: in different ways they initiated and anchored social collectivities in the present.

If the linear timber chamber braced by a pair of cloven posts and sometimes sub-divided by a medial upright was a recurring element in Early Neolithic mortuary monuments in Britain and northern Europe, it is striking that a variety of relatively early megalithic structures amounted to approximations of the same arrangement in stone. The pair of cists at Ascott-under-Wychwood, the slab-built chambers at Cairnholy I, Coldrum, and Mid Gleniron, and the general configuration of portal dolmens all suggest a level of shared practice or meaning. Yet building the same kind of structure in stone rather than wood gives it a different significance, and these were intentionally more durable entities. Presumably, the chamber itself was intended to represent a lasting reminder of the community and its relationship with its dead. Passage tombs, whose presence in Britain is substantiated from the thirty-eighth century BC onwards, may have represented a rather separate phenomenon. Their construction involved a series of architectural conventions that was distinct from those of the long cairns and dolmens. Potentially, this may have related to a rather different kind of relationship with the dead.

Portable Artefacts: Tradition and Transmission

CULTURAL TRANSMISSION, CULTURAL TRADITION

As well as domesticated plants and animals, and new architectural forms, the start of the Neolithic saw the introduction to Britain of a series of types of portable artefact of continental inspiration. Neolithic societies were more ‘thing rich’ than Mesolithic ones, and the assimilation of new kinds of objects was integral to the emergence of a new kind of sociality. We saw in Chapter Eight that polished jadeitite axes might conceivably have begun to circulate in Britain and Ireland before 4000 BC, but from this time onwards new types of stone tools began to be manufactured in these islands, including polished flint axes and leaf-shaped arrowheads. The acquisition of flint from deep shaft mines was also a Neolithic innovation, and ceramic vessels were used for the first time. These technological changes raise in an acute way the question of the mechanisms involved in the transfer or relocation of cultural phenomena, to which we have already alluded. Discussing the first appearance of farming in Europe, Albert Ammerman (1989: 163) draws a broad distinction between two kinds of processes by which objects and practices can spread geographically, which he calls *demic diffusion* and *cultural diffusion*. By this he means that novelties can either be carried by groups of people as they move from place to place, or they can be passed between separate communities. We briefly addressed this distinction in Chapter Three, concentrating on contemporary models of population movement. However, as we begin to focus on material things a more extensive discussion of ‘cultural diffusion’ becomes imperative. This is because the term has become largely synonymous with ‘cultural transmission’, a concept that has been much discussed within archaeology over the past two decades (see Chapter Four). It is therefore important to clarify exactly what is meant by diffusion or transmission, and whether they can usefully be employed to describe the processes of cultural engagement that took place at the beginning of the British Neolithic.

Diffusionists, in the earlier twentieth century, were concerned with the dispersal of individual cultural traits. These were understood to give rise to complex and unique patterns of cultural diversity, which could not have been accounted for by Darwinian evolutionary theories (Stout 2008: 75). Ironically, cultural transmission theory has become an aspect of the ‘new Darwinism’ which develops the diffusionist vision of culture as composed of a series of particulate entities (Bloch 2000: 196). According to this perspective, culture is a body of information that has the

potential to influence people's reproductive fitness, and which they acquire from others through the mechanism of social learning (Shennan 2002: 38). This means that cultural transmission forms an inheritance system which is analogous to genetic transmission, but separate from it (Boyd and Richerson 1985: 33). Just as biological evolution is based upon the propagation of genes, so the basic unit of cultural inheritance is the meme. Memes are replicating cultural instructions, and as with genes it is considered helpful to imagine them as operating in the interest of their own reproductive success rather than that of their host organism or species (Dawkins 1989: 192). This view is not entirely at odds with classical anthropological understandings of culture as both the intellectual products of human society, and the means by which those products are achieved (Kroeber and Kluckhohn 1952: 145). However, it departs from the orthodoxy of processual archaeology in holding that culture is not in itself an adaptive system, but a repository of information that is employed differentially by social actors (Shennan 2002: 80). While the hypothetical status of genes has been supported by the investigation of DNA, no such empirical support has been achieved in the case of memes. However, even if the existence of memes as distinct units of cultural inheritance that are subject to selection through their influence on human phenotypes is unproven, devotees argue for the heuristic value of the approach at the population level (Shennan 2002: 46). Regardless of the precise entities at work, cultural traditions behave as if mutation, selection, drift, and biased transmission were operating on their components. Observed at the large scale and over the long term, the pattern of changing cultural traits is informative regarding the selective pressures that human communities experienced in the past (Bentley and Shennan 2003: 460).

However, it is also possible to argue that the entire framework of cultural transmission studies systematically encourages a fundamental misapprehension of both culture and human social existence. Darwinian transmission requires that culture be composed of a series of discrete and self-contained bits of information, which can be inputted, stored, and outputted by human minds. As such, it represents a form of *atomism*, which holds that human beings are essentially disengaged intelligences who take in nuggets of data from the world and process them cognitively (Taylor 1993: 321). But it is extremely questionable whether we either acquire our basic information from the world in such bounded gobbets, or whether we then pass on our knowledge in a form that could be expressed as a set of trait-like memes. Maurice Bloch (2000: 193) gives the example of a farmer's accumulated knowledge of the weather, a combination of maxims and intuitions that would be difficult to reduce to an array of bits. This is principally because human knowledge and know-how is never exclusively composed of free-standing and self-contained data, but always implies and relies upon background practices and understandings, which may not exist in a form that could readily be articulated (Taylor 1993: 326). As Charles Taylor has argued, a belief that human functioning involves a combination of atomized input and computational mental processing is a legacy of the modern West's excessive valorization of rational procedure (1993: 317). This is not to decry the systematic application of reason, but it is important to recognize that this is not the only way that human beings operate, and that it never occurs in isolation. For the individual phenomena that we focus on and engage with are only intelligible to us at all because of the

existence of a background of skills, contexts, desires, dispositions, and purposes of which we are only partially aware, and could never fully give account (Wrathall 2000: 94). This background is part of our culture, in that we acquire it and pass it on to others, but it simply could not be reduced to atoms of transmissible information to be passed between minds. These issues are of particular importance in the study of the Neolithic, where artefacts and architecture did not function in isolation, but were integral to a network of relationships which supported and constrained social conduct.

The consequence of this is that the acquisition of culture is never simply a matter of replication. Even where a person is attempting to copy the acts or products of another, the process is inferential, interpretive, and creative (Sperber 2000: 171; Ingold and Hallam 2007: 5). The pot made by an apprentice is never a 'carbon copy' of that made by the craftsman: it is a re-creation and an interpretation (Kisiel 1969: 367). While the learning of a craft skill may involve explicit rules, maxims, and principles, it also involves practical understandings that are impossible to verbalize. Michael Oakeshott suggests that in the course of apprenticeship a neophyte will be aware of being instructed in technical matters, but will only later realize that they have also acquired a more embodied form of knowledge in the process. His argument is that modern rationalism effectively denies the existence of this practical knowledge (Oakeshott 1991: 14). Indeed, what Oakeshott calls practical knowledge or know-how is part of what others would refer to as 'background', aspects of one's cultural inheritance and worldly condition that cannot be reduced to propositional statements (O'Hear 1992: 67; Bloch 2000: 200; Taylor 2000: 118).

Where the combination of propositional and practical understandings are considered as aspects of an indissoluble whole, it is normal to talk not of cultural transmission but cultural tradition. A tradition passes down not just the atomic elements of a culture, but the contexts and conditions that make it comprehensible to its participants (Kisiel 1969: 360). Unfortunately, academic discussion of the issue of tradition has been somewhat limited. Edward Shils argues that this is because a concern with tradition has been stigmatized as reactionary or conservative, and indeed much of the literature on tradition is the work of self-identified conservative-thinkers (Shils 1981: 7). However, it is important to distinguish between traditionalism and conservatism, and to recognize that tradition is not the exclusive prerogative of any particular school of thought (Mannheim 1991: 281). One reason for this view is that alongside prejudice, superstition, and arbitrary authority, tradition and custom were vilified by Enlightenment thinkers as encumbrances that human beings should overcome in order to achieve rational self-determination (MacIntyre 1981: 51; Shils 1981: 11). Tradition is thus a restriction on progress, a dogmatic attachment to the past. However, more recent perspectives emphasize that traditions are not static, but constantly in the process of re-creating themselves. They involve picking up resources from predecessors and carrying them forward in ways that are diverse and complicated (Ingold and Hallam 2007: 2; Roberts 2008: 355).

In archaeology, the word 'tradition' is sometimes used as a placeholder for more discredited terms, such as 'culture' (in the culture-historic sense, so that we speak of a 'Linear Pottery Tradition' as an alternative to 'Linear Pottery Culture'). However, where we are discussing artefacts and their manufacture, the notion

of tradition is potentially more powerful than this would suggest. 'Cultural transmission' implies the transfer of traits or memes between members of a community, or between two social groups. A consideration of cultural tradition demands that we should consider the social mechanisms through which skills are acquired. In the case under consideration in this book, we have to do more than saying either that the skills of potting, flint-mining and making polished stone tools were either brought to Britain by immigrants, or were acquired by indigenous communities. We need instead to address the processes by which craft traditions were translocated, or by which people became embedded in those traditions. In the latter case, this is a question of the acquisition of skill. For as we have seen, skill is not a set of bits of information, it is generated through the combination of general rules and contextually generated competence (Dreyfus 2000: 158). Skilled expertise demands the achievement of a level of performance that is intuitive and transcends deliberation (Ingold and Hallam 2007: 14).

Within the rubric of cultural transmission studies, useful work has been done on craft apprenticeship, addressing the balance of explicit teaching and guidance to observation and imitation (Tehrani and Riede 2008: 320). Many craft skills require extended periods of learning, which involve collaboration, demonstration, and the correction of mistakes. This often occurs within a family or kin group, and the process tends to reinforce established practices and products. However, other studies of skills-acquisition have stressed the notion of legitimate peripheral participation, in which the process of increasing participation in craft activities is coterminous with acceptance into a community of practice (Lave and Wenger 1991). It is through gradually becoming familiar with the tasks and vocabulary of a group of craftspeople on a habitual level that novices are bound into social relationships. Again, this is not simply a matter of internalizing bits of information. Much of what needs to be developed is practical know-how: bodily postures and movements, tempo of working, and attentiveness to the materials in use and the flow of action (Liardet 2010). This is what Ingold (2000) describes as the 'education of attention', which recognizes that the making of artefacts is a performance rather than the achievement of a pre-conceived design (Nakamura 2007). It follows from these arguments that the foundation of a Neolithic society in Britain would have demanded the crystallization of a web of skills implicated in the use of a range of new artefact types, as well as the care and nurture of new species. This process of skills acquisition at a societal level, to the point where a whole network of everyday practices could be carried forward in an unconsidered, habitual manner, is a great part of what the process of 'Neolithization' involved.

CRAFTING AND CULTIVATING CERAMICS

Pottery has often been identified as one of the most characteristic technologies of the Neolithic, and it represents a singularly plastic and malleable medium. As such it is a prime example of a form of material culture which is 'immersive', in that the created object is not simply the physical embodiment of an idea which is first held in the head (Ingold 2007: 8). Instead, the form emerges from an engagement that takes place within a world of forces and materials (Ingold 2007: 11). We might say

that the potter influences and canalizes the materials that they work with in order to achieve a desired outcome, rather than bringing matter into being out of thin air. In a very broad sense this is comparable with the domestication of plants and animals: not bringing new species into being, but working with existing stock to influence their form and behaviour. It is arguable, then, that ceramic technology involves a 'cultivation' of materials, which is not exclusively Neolithic in character but which finds an affinity with other Neolithic practices. This adds to the sense in which the craft of potting cannot be reduced to a set of abstract maxims, for people discover the potentials and limitations of the materials that they work with in the process of using them. Equally importantly, the process of acquiring the skills of ceramic manufacture is a social one; people learn the various elements of the craft through their interactions with other persons. So as well as engaging with clay, water, stone, and tools, people pick up and reproduce a set of creative practices through a network of social relationships in which they find themselves embedded (Gosselain 2000: 209). It follows that there will be some relationship between the broader social group and the pottery styles that they produce. However, it is now widely recognized that social formations are not fixed and changeless entities, while the artefacts that they create are not a simple reflection of any stable identity (Hegmon 2000: 131). Rather, material things are actively engaged in the process through which social identities are negotiated and transformed, even when their forms appear to be stable over time.

Ethnographic observations appear to support these arguments. In many societies, potting is a skill that is learned socially, from a variety of people who may not all be close family (Kramer 1985: 83). Potters often learn how to make basic vessel forms early in their lives, enhancing their skills as the years go by (Gosselain 2000: 193). Learning generally takes place in the context of routine production, often amongst informal and temporary groupings of people whose levels of accomplishment may be quite varied (Kramer 1985: 87). Potting involves a range of different tasks: the extraction and pre-treatment of clay, the extraction and crushing of temper, the building of vessels, their drying, and firing. Clays, tempers and fuel are materials whose gathering requires a knowledge of the landscape, while the production process needs to be set within the other demands of social life and the seasonal round, as well as the fluxes of weather and temperature (Vitelli 1995: 61). Potting relies on both implicit and explicit knowledge, some of which may be socially restricted. Indeed, given its transformational character, ceramic manufacture is sometimes understood as a form of magic or alchemy. Some aspects of the process of manufacture may be kept secret, such as the precise composition of the temper. But as Gosselain (2000: 191) points out, some production practices leave a visible sign in the vessel itself. In the case of primary Neolithic ceramics in Britain examples would include smoothing and burnishing. It will be these visible aspects of production that are most likely to be borrowed or copied, either by co-workers or by other communities.

While cross-cultural generalizations are always risky, it seems that while wheel-thrown pots made in formal workshops are often associated with a degree of craft specialization and male-dominated production, hand-made pots are likely to be made by women (Kramer 1985: 79). It has often been speculated that potting was a gendered activity in Neolithic Europe, perhaps carried out by women alongside food-gathering, cooking, and child-rearing (Louwe Kooijmans 2010: 35). While

this argument runs the risk of androcentrism, it can be framed in more positive terms. If potting *were* a female skill it might constitute a form of 'women's knowledge', complementary to stone-working and providing women with forms of authority or prestige. This must be highly speculative, but it suggests an important point: if potting were gendered in this way, the transfer of the practice from one place to another or one social group to another would be related to the activities of women, rather than entire communities (Cleal 2004: 185).

Some further aspects of the social significance of the introduction of pottery are worthy of consideration. In Chapter Nine we discussed the possibility that the beginning of the Neolithic in Britain involved the formation of 'house societies', in the sense of corporate social groups whose durability is embedded in an estate of things, whether real or imagined. One of the characteristics of such communities, over and above the existence of a 'house' structure, is the more general elaboration of artefacts. Greater investment is made into the form and fabric of material things, which are often made to last, and develop complex biographies of their own which feed into the history of the community as a whole (Helms 2007: 489). From the beginning of the Neolithic in Britain, human groups started to have a durable material exoskeleton, to a much greater degree than Mesolithic societies had done. Artefacts became the enduring scaffolding of both everyday and ceremonial life, stabilizing human existence by connecting episodes of activity. The biographies of artefacts and structures increasingly provided a structured context for those of human beings. Furthermore, artefacts play a key role in the relationships between 'house' communities (Beck 2007: 9). Making objects, exchanging them, and displaying them are ways in which houses are able to enhance their visibility and solidify their identities. Pottery is potentially an important artefact type in this respect. Ceramic vessels are highly visible, transforming the way in which food is mixed, cooked, and served. Because pottery technology is not easy to master, it may constitute an exclusive, prestige form of container when first introduced to a given region (Hayden 1995b: 261). Indeed, there may be some investment in making very fine vessels at first, rather than merely functional items. Moreover, the first use of pots may be in ceremonial contexts and feasting, particularly if the technology has been introduced from outside (Marshall and Maas 1997: 276). Only later do ceramics 'trickle down' to everyday use.

CARINATED BOWLS AND THE PRIMARY NEOLITHIC

For some while there has been a level of acceptance that fine, thin-walled, undecorated, round-based bowls with a carination low on the body of the vessel fall early within the British Neolithic sequence (Fig. 11.1). In this text, 'Carinated Bowl' is taken to refer to this material tradition (otherwise 'Grimston Ware'), while 'carinated bowl' denotes only a particular vessel form. Following Nancy Newbiggin's pioneering study of the pottery of Neolithic Yorkshire (1937: 189), Stuart Piggott drew a distinction between the fine carinated bowls from the Hanging Grimston long barrow and other plain pottery found in Yorkshire: coarser, s-profiled vessels and simple open forms with heavy, rolled rims, which he defined as Heslerton Ware (Piggott 1954: 114). Grimston Ware was

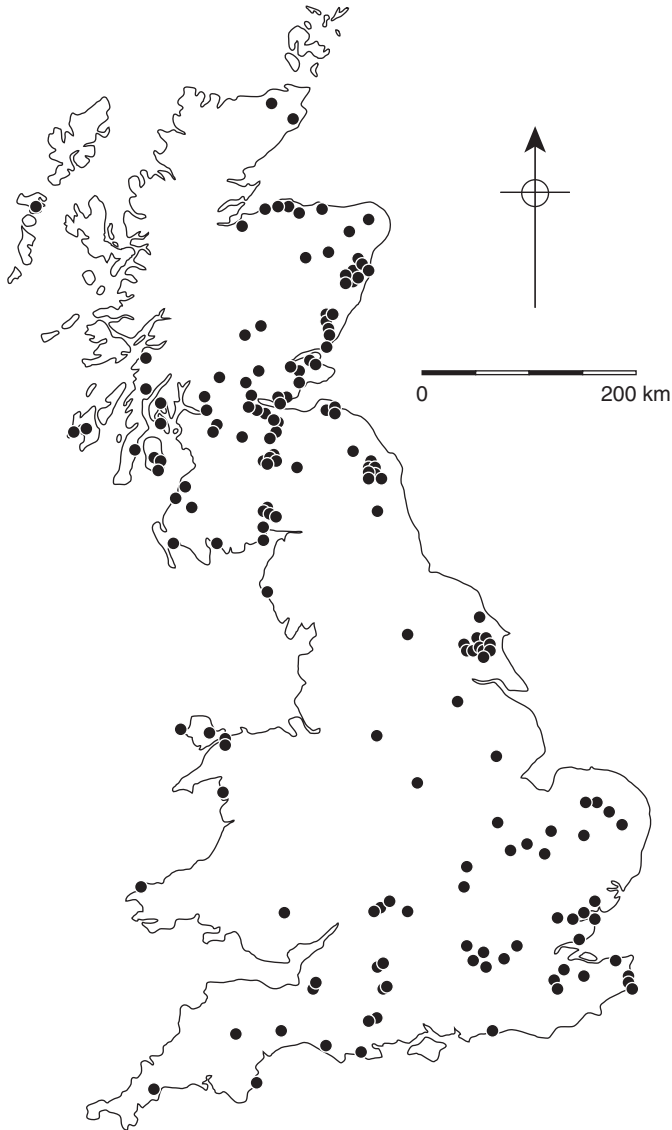


Fig. 11.1. Distribution of Carinated Bowl and related assemblages on the British mainland

distinguished by the fineness of its texture, the excellence of manufacturing technique, and the sharpness of the profile, although Piggott acknowledged that there was a degree of overlap between the two styles. Later, Manby (1970) would argue that Grimston Ware and Heselton Ware were actually aspects of a single style. By contrast, Isobel Smith identified the widespread distribution of fine carinated bowls throughout Britain and Ireland, labelling the complex as the Grimston-Lyle's Hill style (Smith 1974: 106). This she argued to have been at once the earliest and the most long-lived ceramic style in the insular Neolithic.

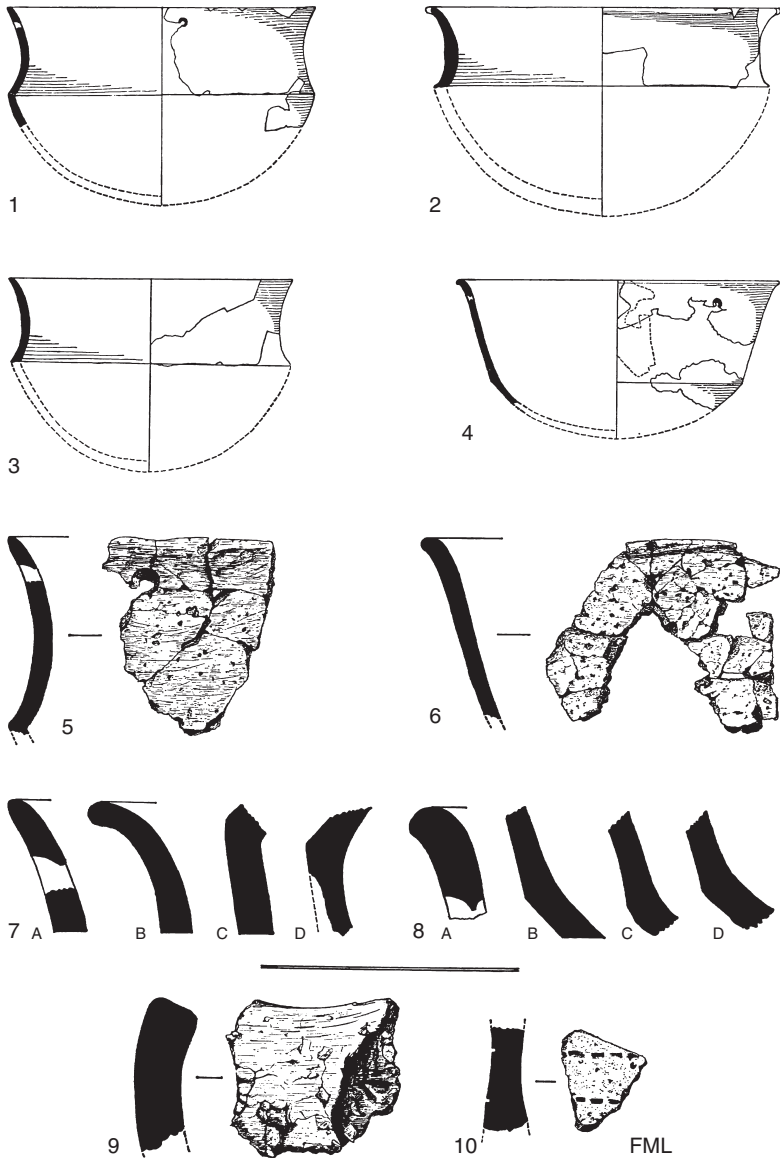


Fig. 11.2. 'Irish Sea Ware' pottery from the western chamber complex at Dyffryn Ardudwy (reproduced by kind permission of the Society of Antiquaries of London from *Archaeologia* 54, Powell, T. G. E., 1973, Fig. 3 © reserved)

Closely related to this complex was the so-called 'Irish Sea Ware' from Welsh sites including Dyffryn Ardudwy and Llandegai (Fig. 11.2). This was dominated by carinated forms, and often had a vesicular structure owing to the decay of particles of temper, which might have included crushed charcoal or gypsum (Powell 1973: 44). As Andrew Herne (1988: 14) was later to argue, the notion of the longevity of

Grimston Ware was largely based on the identification of Broome Heath in Norfolk as a type-site for the style. Classic Grimston bowls with low-set carinations and simple rims are scarce at Broome Heath however, and the assemblage includes s-profiled bowls, hemispherical bowls, jars, bag-shaped pots, shouldered bowls, thumb-groove pots, and deep carinated bowls (Wainwright 1972: 22).

Arguing that Broome Heath represented an assemblage characteristic of the mature Early Neolithic, and effectively the plainware equivalent of the decorated Mildenhall Ware of eastern England, Herne urged a focus on the classic angular bipartite carinated bowl as the type fossil of the earliest Neolithic in Britain (1988: 14). These he distinguished from 'shouldered bowls', with an upright shoulder on the upper part of the vessel, which would form a characteristic element of the decorated ceramic styles of the period from the thirty-seventh century BC onwards, including Mildenhall and Windmill Hill. If carinated Grimston bowls typified the earliest ceramic assemblages in Britain, the subsequent development was one towards greater complexity, diversity, and regionalization (Herne 1988: 23; see also Kinnes 1985: 123). Vessel forms gradually became more diverse as pottery began to be used for a wider range of purposes. The apparent paradox that Herne noted was that although there had been no previous indigenous tradition of pottery-making, the earliest assemblages were distinguished by an extremely high quality of manufacture and finish. Subsequently, Cleal (2004: 177) took issue with Herne's characterization of the primary Neolithic ceramic repertoire. In particular, she rejected the view that the Grimston carinated bowl represented a fixed norm of early assemblages, as opposed to a core element within a relatively fluid range of variability. According to Cleal, there probably never was a horizon of 'pure' Carinated Bowl, and other forms were probably present from the inception of the Neolithic. Herne's exclusion of both s-profiled vessels and shouldered bowls may therefore not be entirely warranted.

Cleal addressed a series of potentially very early ceramic assemblages from the south-west of England in order to demonstrate this argument. At the Sweet Track, firmly dated to the beginning of the thirty-eighth century BC, 'classic' carinated bowls were accompanied by 'pseudo-carinated' vessels without a sharp carination, and deep-bodied carinated bowls (Cleal 2004: 171). In the case of the Coneybury Anomaly (see Chapter Seven) there was only one classic carinated bowl, together with a range of neutral and inflected forms in a relatively coarse fabric. One of the vessels at Coneybury bore a perforated lug, and lugs were also found in the assemblage from Flagstones in Dorset, which was composed of carinated bowl, inflected neutral bowl, and simple neutral bowl. Finally, at Rowden (also in Dorset), deep-bodied and inflected bowls were found alongside carinated bowls (Cleal 2004: 176). As Cleal points out, there is no reason to suppose that the Yorkshire assemblages that Herne cited as archetypal Grimston Ware were any earlier than her Wessex examples. Indeed, current dating analysis would suggest that they are probably no earlier than the thirty-eighth century BC (see Chapter Seven). Conversely, it is possible that Coneybury, Rowden, and Flagstones do not date to the very first centuries of the Neolithic, and document a broadening of the range of vessel forms and a coarsening of fabrics at the inception of the South-Western or Hembury style (see below).

Classic Grimston carinated bowls have a cavetto zone separated from a more or less shallow belly by a sharp carination, although in northern Britain the

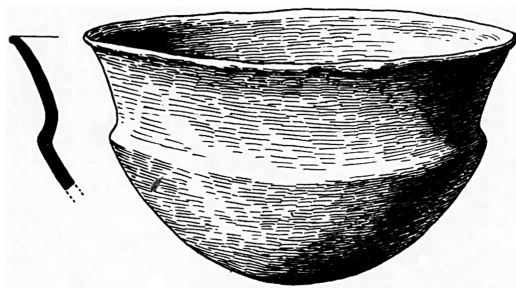


Fig. 11.3. Reconstruction of the Carinated Bowl vessel from Cissbury (Curwen Archive, reproduced by the kind permission of the Sussex Archaeological Society)

carination may be less pronounced. Rims are generally simple, rounded or everted, and the vessel may be neutral or splayed open (Fig. 11.3). There is little decoration, except for fingertip fluting in the north (Sheridan 2007a: 458). Vessels were made using coil and ring forming, and surfaces are smoothed, often having a slipped appearance which may indicate wet smoothing. Some vessels are burnished, and at some sites this may have been a routine aspect of production (Miket, Edwards, and O'Brien 2008: 57). However, at relatively early sites such as Ascott-under-Wychwood burnishing and smoothing were not seen on all pots, and there is no trace of ripple burnishing or fluting. The Ascott assemblage also hints that there may have been a coarseware component from early in the sequence (Barclay and Case 2007: 268). The fineness of manufacture is seen in the very thin walls of even quite large vessels. Inclusions are often fine and thinly dispersed, and the clay used in manufacture may sometimes have been refined before use (Sheridan 2007a: 461). Undoubtedly, Carinated Bowls were used for the cooking and serving of food. Vessels from the Warren Field timber hall bore black-brown food crusts and produced lipid traces of ruminant dairy fat and porcine fat (Sheridan 2009: 88), while sherds from Boghead had been scorched and refired (Burl 1984: 60). According to Sheridan, the extensive use of a distinctive style of exceedingly fine pottery marks it out as having been introduced in the process of population movement: 'skilled potters, following an established tradition, supports the view that its makers were initially members of immigrant pioneering farming communities' (Sheridan 2009: 91).

Recent years have seen a growing acceptance of the view that classic Carinated Bowls were not categorically separate from other vessel forms that would continue in use into the later part of the Early Neolithic (Miket, Edwards, and O'Brien 2008: 52). Sheridan (2007a: 458) argues that the characteristic primary Neolithic assemblage was composed of both carinated and s-profiled bowls, as well as globular bowls and cups, and rarer collared jars. The material from Thirlings in Northumberland, for example, was dominated by around 80 per cent carinated bowls, but also contained s-profiled bowls, simple globular bowls and cups, and necked jars (Miket, Edwards, and O'Brien 2008: 53). Other potentially early assemblages contain no carinated vessels at all: the pit at Wingham in Kent held seven simple open and neutral uncarinated bowls in a fine, hard burnished fabric, with transverse rippling or fluting in some cases (Greenfield 1960: 63). Soon after the appearance of pottery in Scotland a distinctive regional variant seems to have

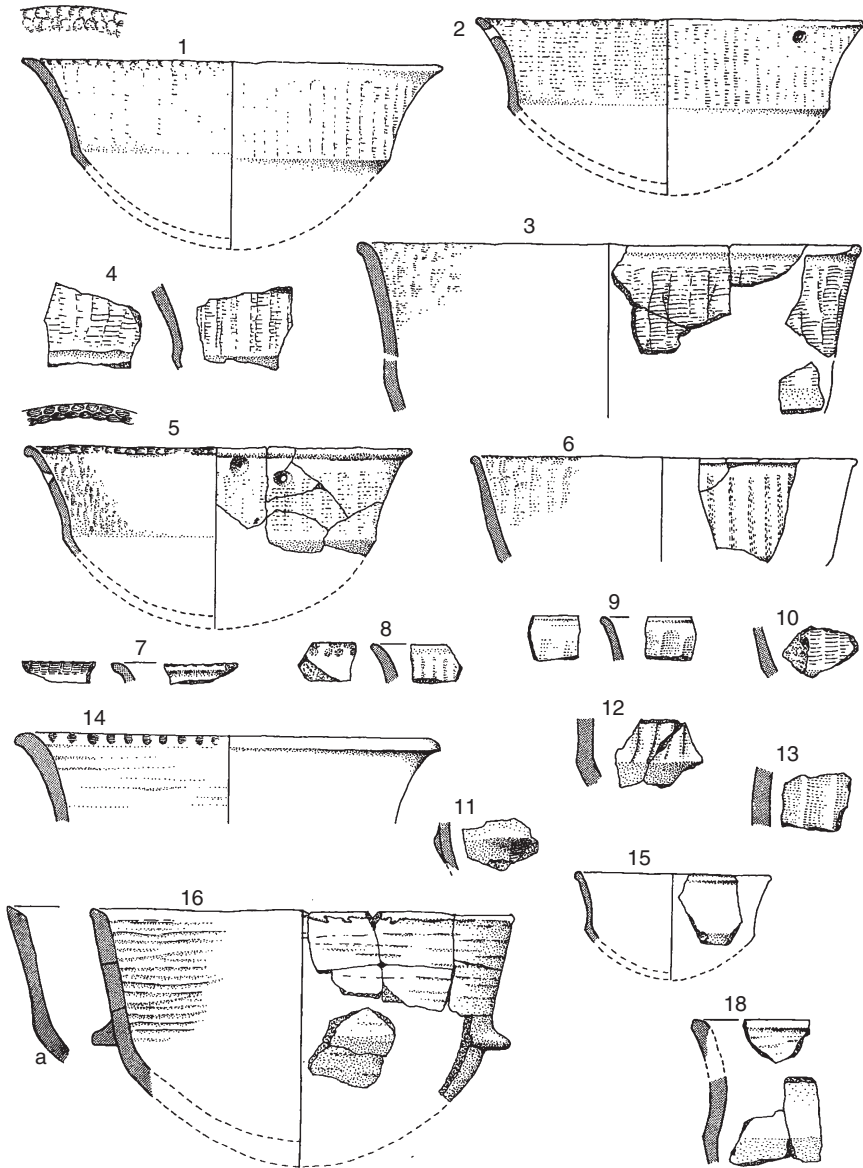


Fig. 11.4. 'North-Eastern style' Carinated Bowl pottery from the Boghead mound, Fochabers (from Burl 1984, with the kind permission of the Society of Antiquaries of Scotland)

developed, the 'North-Eastern style', seen at sites such as Easterton of Roseisle and Boghead (Fig. 11.4). This material is distinguished by shallow, open, flaring vessel forms with fingertip fluting, ripple burnishing, and rare incised linear decoration (Cowie 1993: 15; Sheridan 2007a: 461). Lugs are found on existing vessel forms, and on bag-shaped pots that are new to the assemblage, and rim forms became more developed (Henshall 1983: 31). Later still, 'modified Carinated Bowl'

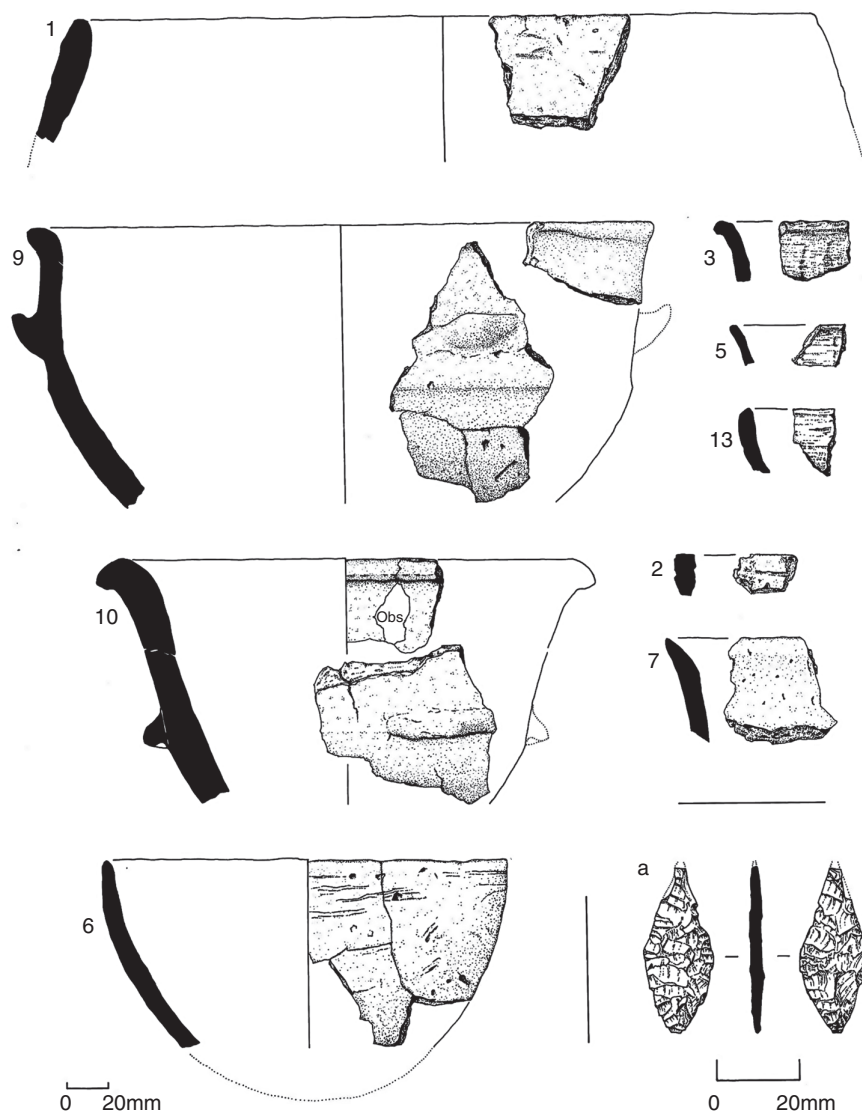


Fig. 11.5. 'Modified Carinated Bowl' pottery and worked stone finds from the cairn of East Finnercy, Aberdeenshire (from Leivers, Roberts, and Peterson 2000, with the kind permission of the authors and the Society of Antiquaries of Scotland)

assemblages developed, with softer fabrics, thicker vessel walls, heavier rims, more extensive use of lugs, and more diverse vessel forms. Examples would include material from the later phases of the Eweford West long barrow (Lelong and McGregor 2007: 32) and East Finnercy (Leivers, Roberts, and Peterson 2000: 189) in Scotland, and Lanton Quarry (Tinsley and Waddington 2009: 3) in the north of England (Fig. 11.5). Conceivably, the assemblage from Cherhill in Wiltshire might represent a southern equivalent (Evans and Smith 1983: 84–6).

Herne (1988: 26) originally emphasized the occurrence of Carinated Bowl pottery in special, non-utilitarian contexts. By contrast, Sheridan (2007a: 460) pointed to the evidence for the use of early pottery in the everyday preparation and consumption of food, and sought to reject its identification as a special-purpose artefact type. Both may be correct to some degree, in that there may have been variation over time and space in the way that Carinated Bowls were used. In the south of England, Carinated Bowl pottery is most likely to occur in pits and in pre-barrow contexts, while material has also been recovered from barrows, burials, and timber halls. Occupation sites or surface scatters with Carinated Bowl sherds are extremely scarce in the south, and in Wessex in particular the occurrence of early pottery of any kind is very rare (Whittle 2007a: 389). Early sites with pottery in the south, including the pit sites, do often seem 'special'. A good example is the pit on Handley Hill in Cranborne Chase, containing a disarticulated human skeleton and twelve cattle bones, together with a portion of a fine s-profiled vessel with internal rim ripples (Cleal 1991: 134). Similarly, at Bishop's Cannings G62a in north Wiltshire, Carinated Bowl sherds were found in a layer of ashy material which sealed a cremation deposit within a pit beneath a later round barrow (Herne 1988: 17). Pre-barrow finds include the eight fine vessels with simple rims associated with cremated bone beneath the Chestnuts chambered tomb in Kent (Alexander 1961: 9). In East Anglia, Carinated Bowls are often found in pit sites, but at Spong Hill the four isolated Grimston Ware pits contrasted with the very much more numerous grouped pits associated with Mildenhall Ware (Healy 1988: 18). Welsh sites include the timber halls of Llandegai and Parc Bryn Cegin, the pre-barrow assemblage from Gwernvale, and associations with megalithic tombs at Trefignath, Din Dryfol and Carreg Samson, as well as the pit in the forecourt of the Dyffryn Ardudwy dolmen (Lynch 1976: 66; Britnell and Savory 1984: 97; Smith and Lynch 1987: 74; Kenney 2008: 24).

The situation in Scotland and Northumbria is rather different. Here, occupation sites are the *most common* context type for Carinated Bowl pottery, although pits and barrows are also numerous. The former include the two nebulous huts and numerous hearths at Auchategan, from which many sooted and refired sherds were recovered, suggesting repeated use in cooking (Marshall 1978: 39). Pits like those at Wardend of Duris (Russell-White 1995: 16), Ratho (Smith 1995: 75), and Newton (McCullagh 1989: 27), or the artefact-rich 'midden pit' F031 at Cheviot Quarry in the Milfield Basin (Johnson and Waddington 2008: 135) might represent more or less formal deposition, and yet could also be the product of episodes of transient settlement (Garrow, Beadsmoore, and Knight 2005: 152). There are numerous funerary sites associated with Carinated Bowl pottery in northern Britain, and interestingly many of these involve cremation deposits. These include cremations in pits at Yeavering (Hope Taylor 1977: 20), beneath a ring mound at Midtown of Pitglassie (Shepherd 1996: 17), and beneath round cairns at Ford (Greenwell 1877) and Powsode, Atherb (Henshall 1983). Both of the latter cairns may have covered pyre sites, while the activities conducted in the central linear space beneath the Boghead mound are less easy to define (Burl 1984: 61). The contrasting ways in which Carinated Bowl pottery was used in north and south can best be explained in relation to the emerging chronology of the earliest Neolithic.

DATING CARINATED BOWL POTTERY

According to Whittle, Healy, and Bayliss (2011: 759), Carinated Bowl pottery *probably* began to be used in southern Britain in the period 4080–3990 cal. bc, and went out of use during 3685–3595 cal. bc (at 68 per cent confidence). By contrast, the first use of Carinated Bowl in Scotland was probably in 3810–3755 cal. bc, the North-East style of Carinated Bowl developed in 3905–3770 cal. bc, and modified Carinated Bowl in 3925–3690 cal. bc. These dates largely reflect the likelihood that the Neolithic began in Scotland about a quarter of a millennium later than in the south-east of England. It follows that the earliest assemblages of Carinated Bowl pottery will be found in southern England. At the time of writing, one of the earliest reliable dates for Carinated Bowl has come from a burial at Yabsley Street in Blackwall. A large rim-sherd had been placed beside the head of the probably female skeleton, and further fragments of four other vessels were found in the grave (Fig. 11.6). The vessels were sharply carinated, thin-walled, and burnished

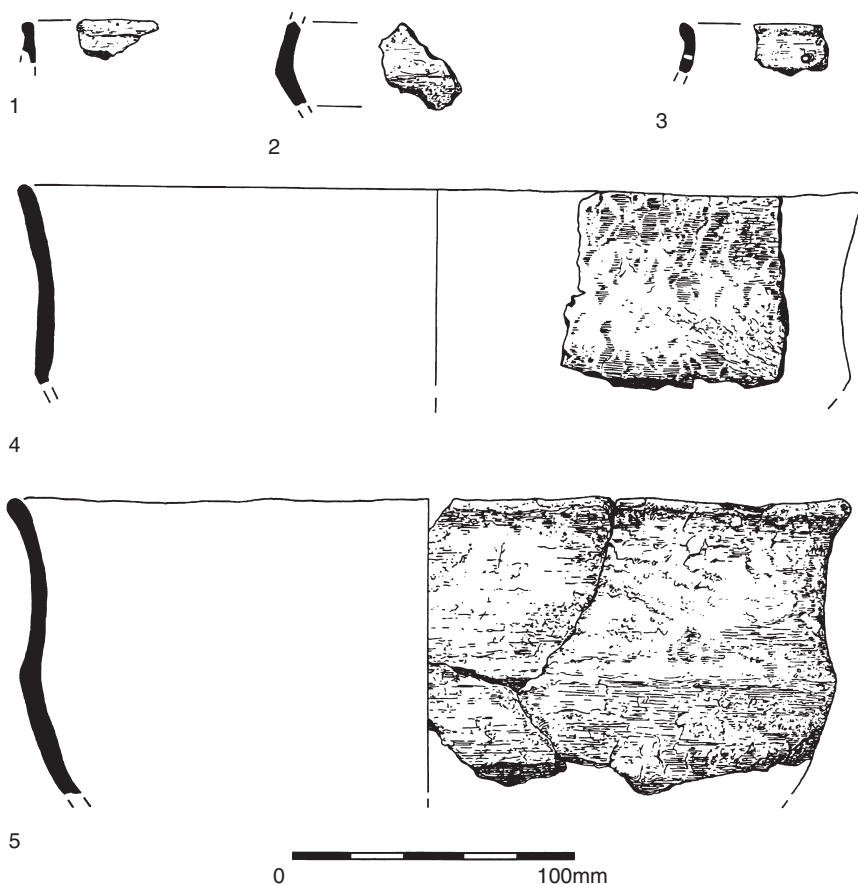


Fig. 11.6. Pottery from the grave at Yabsley Street (from Coles, Ford, and Taylor 2008, reproduced by permission of the Prehistoric Society)

on both sides. The probable date of the inhumation was 4028–3990 cal. BC (at 45 per cent confidence). Other assemblages which have been securely dated to the horizon before 3800 BC include those from the White Horse Stone timber hall, the Sweet Track, Cissbury flint mine, and the pre-barrow occupations at Ascott-under-Wychwood and Hazleton. Barclay (2008: 5) points out that these very early assemblages are distinguished by very fine bipartite bowls with hollow necks and sharp, low-set carinations, as well as simple, pointed or everted rims, and suggests that the material from Cannon Hill in Berkshire can be added to this group. They contrast with later material with a more distinct coarseware component, heavier rolled or thickened rims, less acute shoulders, and shorter necks. In the south of England, such later assemblages include those from Staines Road, Shepperton, Eton Rowling Course, and the Coneybury Anomaly (Barclay and Case 2007: 280; Jones 2008: 82).

If we take this group of 'early' assemblages as a basis for comparison, some important contrasts quickly emerge. Firstly, these are generally small groups of pottery: only scraps from White Horse Stone, six vessels from the Sweet Track, four or five from Yabsley Street, one from Cissbury and twelve from Cannon Hill. The material from Ascott and Hazleton was more extensive, but it must be remembered that these two midden contexts built up over appreciable periods of time. The 48 pots from Ascott were deposited over 40–100 years, giving an average of 0.48–1.2 pots per year (Bayliss et al. 2007: 39). The 25 from Hazleton built up over 40–180 years, suggesting 0.138–0.625 pots per year (Meadows, Barclay, and Bayliss 2007: 51). An instructive comparison can be made with the pit site at Kilverstone in Norfolk, dating to the mature Early Neolithic, where 1.52–3.02 vessels were probably deposited each year (Garrow, Beadsmoore, and Knight 2005: 152). This indicates that the rate of deposition at Ascott and Hazleton was comparatively sparse. The figures for early assemblages in the south contrast starkly with the rather later collections from the north. 25 vessels came from what was judged to be a rather short period of occupation at Maybole (Becket and MacGregor 2009: 118). 79 came from Cheviot Quarry, 200 from Biggar Common, 60 from Auchategan, 60–65 from Claish, 165 from Kintore, and 132 from Hatton Farm, from a single episode of deposition (Gray and Suddaby 2010: 9).

Significantly, the group of very early assemblages also exhibits a quite restricted range of vessel forms. They are massively dominated by classic, neutral carinated bowls, with only a few cups, open or closed carinated bowls, or neutral inflected bowls at each site. Later assemblages retained the neutral and open carinated bowls, but there was a more even representation of other forms, particularly open inflected bowls, simple neutral bowls, straight-necked carinated bowls, and closed inflected bowls (Fig. 11.7). While pre-3800 BC Carinated Bowls in southern England tend towards a classic, upright vessel form, assemblages in Scotland and northern England often contain numerous wide, shallow, splayed vessels. Although this trend is most pronounced in the North-Eastern style, it can also be recognized in assemblages like that from Lockerbie Academy (Kirby 2011: 18). There was also a change in size. The early assemblages are composed of vessels with rim diameters of less than 350 millimetres, with a high percentage in the 100–150 millimetre range and many at 200–250 millimetres. Later sites have diameters of up to 450 millimetres, and a high proportion over 250 millimetres.

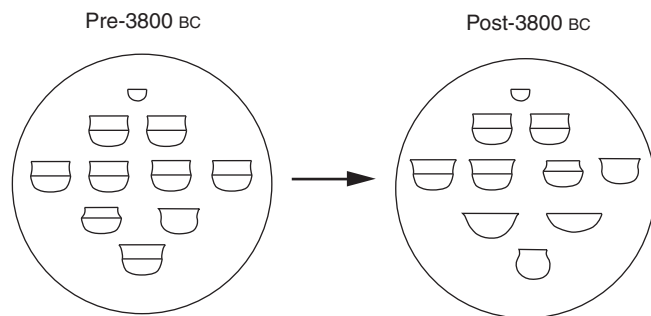


Fig. 11.7. Schematic representation of the changing composition of Carinated Bowl assemblages in Britain, before and after c.3800 BC

Putting all of this together, it seems that ceramic assemblages dating to before 3800 BC tend to come from non-domestic contexts, are dominated by the iconic Carinated Bowl vessel form, contain small numbers of vessels, and are principally composed of rather small pots. It therefore seems that the process of elaboration and diversification seen in the North-Eastern and modified Carinated Bowl style was an extension of a trend that was already underway between 4000 and 3800 BC, starting from an assemblage that was very austere indeed. As Cleal argues, there probably never was a point at which *only* carinated bowls were being made, but the earliest assemblages may have included only a very few other forms. Equally, Sheridan (2007a) is quite right to say that Carinated Bowl pots were used for everyday culinary purposes, but it may be that this applies primarily to the northern British contexts with which her article is principally concerned. Her identification of the assemblage from Warren Field, Crathes as characteristic of the 'early' Carinated Bowl tradition (Sheridan 2009: 81) is therefore a relative one, for that tradition was over two centuries old by the start of the Scottish Neolithic. It is conceivable, then, that at the start of the fortieth century BC pottery vessels were rather special objects, created to exacting standards in order to secure their exclusivity and value, and used quite sparingly in significant transactions. As the centuries went by the status of pottery was progressively eroded, being produced in larger quantities, and conforming less and less to an expected and socially sanctioned form. The quality of some of the pots declined, the thickness of vessel walls increased, and ceramics began to be used in a wider variety of practices. Eventually, pots 'became domestic'. This process is demonstrated not only in the emergence of modified Carinated Bowls, but also in some of the Wessex assemblages described by Cleal. It is conceivable that the material from the Coneybury Anomaly and Flagstones House is 'transitional' between the Carinated Bowl tradition and the Hembury or South-Western style, which emerged in the mature Early Neolithic (Sheridan et al. 2008: 20). As Sheridan (2010a: 202) points out, the pots from both of these sites have thicker walls than classic Carinated Bowls, while the lugged baggy jar from Flagstones and the bowl with vertically pierced lugs from Coneybury are not generally found in primary Neolithic assemblages. Arguably, the existing primary Neolithic ceramic repertoire was being extended, by 'borrowing' new vessel forms from neighbouring groups in the north of France.

It can further be argued that this process of borrowing characterized the earlier stages of the introduction of pottery into Britain as well.

CONTINENTAL CONNECTIONS

The similarities between the earliest pottery in Britain and continental ceramics have long been recognized. Gordon Childe suggested parallels with Michelsberg, Chasséen and Breton styles, and opined on the implications of these affinities:

The introduction of a particular ceramic technique is not, in early societies, likely to result from a mere interchange of goods, but rather implies an actual interchange of people. (Childe 1931: 50).

However, as we have already seen, Jacquetta Hawkes pointed to one of the fundamental problems with the view that pottery traditions had been directly transferred from the European landmass to Britain. Specifically addressing the Michelsberg assemblage, she noted that only a minority of the vessel forms represented on the continent could be matched in Britain (Hawkes 1935: 127). While much new information has been gathered over the past seventy-five years, the situation now is still in some ways unchanged from when Hawkes was writing. Northern Chasséen and Aisne Valley Michelsberg have been suggested as close parallels for the Carinated Bowl assemblage, and the northern Pas-de-Calais has been hypothesized as a precise point of origin, although it is acknowledged that no known continental assemblage yet provides a precise match (Sheridan 2002: 88; 2010a: 198). It seems that the Chasseo-Michelsberg was established in north-west France by 4300 BC, and could hypothetically have served as a donor context for a migrant community (Whittle 2007a: 392). The fundamental problem, though, is that close parallels for *individual vessels* from British contexts can be found over a very wide area, stretching from the Netherlands to western France (Cleal 2004: 184), but connections between entire assemblages are much more difficult to establish. This means that attempting to pinpoint a single area as an origin for the Carinated Bowl tradition may be unhelpful. Michelsberg assemblages from locations in Belgium and north-west France generally contain modest numbers of carinated bowls comparable with British examples. Sites such as Mairy (Laurelut 1989), Cuiry-lès-Chaudardes (Lasserre-Martinelli and Le Bolloch 1982) and Boisfort Bervoorde (Vanmontfort 2001) produced both carinated bowls and neutral inflected bowls, but they are dominated by collared vases, lugged globular jars, angular carinated vessels, tulip beakers, and tall closed jars. Some of these other forms occur in British assemblages, but they are exceedingly rare. The open inflected bowl P1 from Auchategan is not unlike a tulip beaker, although the resemblance is not precise (Marshall 1978: 51), while P37 from Claish is related to the tall jars (Sheridan 2002: 84). Much the same can be said of the ceramic assemblages of the Spiere group, which extend from the Scheldt Basin into the Pas-de-Calais. This includes the site of Spiere itself (Vanmontfort, Casseyas, and Vermeersch 1997; Vanmontfort 2001), and the pit or ditch segment at Liévin which contained no carinated bowls at all, only one inflected bowl, and was dominated by necked jars and amphorae (Piningre 1985: 431). The site of Les

Sablins at Étaples produced a single carinated bowl, but with a rather more angular profile than most British examples, save perhaps for the Cissbury vessel (Philippe et al. 2011: 564). Of the 42 reconstructable vessel profiles from Spiere contexts, only four are carinated bowls, and of these only one from Raillencourt-Sainte-Olle comes close to a classic British Carinated Bowl (Bostyn et al. 2011: 57–62). It may also be of note that Belgian Michelsberg mortuary activity emphasized cave burials and flat graves, rather than cremations, again suggesting a level of contrast between British and continental cultural practices (Cauwe, Vander Linden and Vanmontfort 2001: 80).

As much as anything from the Michelsberg repertoire, British Carinated Bowls often resemble northern French Chasséen vessels, including examples from Poutou, Normandy, and the Gironde (Cassen 1993b: 202–5; Cleal 2004: 184; Sheridan 2010a: 200). But just as with the Michelsberg, Chasséen assemblages from north-east France contain many pots that find no parallels in the earliest British material. Sites such as Cherance (Martinez 1984: 109), Compiègne (Toupet 1984: 161), Jonquières (Lasserre 1984: 244), and Boury-en-Vexin (Lombardo, Martinez, and Verret 1984: 277) have carinated and neutral inflected bowls, but also tall carinated vessels with very low carinations; deep, lugged, necked jars; collared vases; sharply angular carinated vessels, globular jars, and bag- and bucket-shaped vessels with lugs. Chasséen assemblages also generally contain decorated vase-supports, which are not known in Britain. Carinated bowls that compare closely with British examples have also been identified at Het Vormer and Hazendonk in the Netherlands (Louwe-Kooijmans 1980). It may be that this particular vessel form was one whose significance was widely recognized and acknowledged within continental Europe, rendering it capable of crossing cultural boundaries and to become embedded in otherwise distinct ceramic assemblages. If so, it might be expected that such iconic pots might be selected for adoption in areas that had no established ceramic tradition, such as Britain. Carinated bowls might not have been introduced from a single point of origin, so much as being recognized as the common currency of hospitality, interaction, and the sharing of food over a substantial geographic area. This argument might render the discussion of whether the Carinated Bowl pottery from the small passage tomb at Broadsands in Devon was ‘Norman’ rather than ‘north-east French’ as unduly specific (Sheridan et al. 2008: 19). That both tomb and pottery must have originated from the same region is only a consideration if one accepts that they must have been the handiwork of a single migrant community. As we have seen in the case of earthen long barrows whose clearest parallels are found in the TRB area, British monuments are not necessarily associated with the same artefactual assemblages as their continental progenitors.

An interesting parallel with the British situation is found on the Dutch sandy soils, where indigenous communities of the Hazendonk/Swifterbant tradition adopted a restricted range of Michelsberg vessel forms. The assemblage is largely composed of carinated bowls and tulip beakers, while small cups, large roughened storage jars, and baking plates are absent. ‘Tupfenleisten’ and perforated lugs are uncommon (Verhart 2000: 230). This would appear to represent a process of deliberate selection from the Michelsberg repertoire, and one that emphasized carinated bowls. Louwe Kooijmans (1980: 199) once speculated that the Hazendonk vessels were influenced by British Grimston Ware rather than vice-versa, but

it might be more helpful to consider them as parallel and comparable developments. British communities adopting pottery for the first time chose to produce only a very few kinds of pots (and principally one kind), but to make them exceptionally well, in order to maximize their value and distinctiveness. If a migrant community from the continent were to have come to Britain with its ceramics, we might expect that they would have brought the entire assemblage, rather than just a selection. It is conceivable, of course, that an as-yet unknown Chasseo-Michelsberg group in north-east France was using a narrower range of pots than their neighbours, and that they alone chose to come to Britain, or that migrant groups elected to use a 'cut down' version of the ceramic assemblage for the first two centuries after their arrival, only expanding it when they were firmly established. These seem less likely options, although it is important not to neglect the important point that the manufacture of Carinated Bowl pottery required a high level of skill. It seems unlikely that people who had never made pots before could have achieved this degree of sophistication on the basis of merely have seen or used ceramics, and then set out to copy them. While there are compelling reasons why the earliest pots in a region should be very fine ones, it is probable that some of their makers had learned their craft on the continent. This would not require the relocation of entire communities across the Channel, but it probably does mean that particular people moved between social groups, bringing their skills with them and establishing local traditions of potting. The most likely mechanism by which this might have taken place is through the exchange of marriage partners, and probably women. Indeed, it is likely that having acquired the ability to make pots of one particular kind to a very high standard would have made such a person a very desirable acquisition, as well as affording them a position of some authority and social standing within their adoptive community. Carinated Bowl pottery is remarkably standardized throughout Britain, and yet it is found in contexts and architectural forms that are highly diverse. This degree of similarity suggests that a positive value was ascribed to the form, rather than it merely reflecting the cultural origins of its users.

STONE TOOLS

Chipped and flaked tools, made from flint, chert, quartz, and other stones, present an interesting contrast with ceramics. Where pottery is a plastic and additive medium, stone is worked reductively, removing flakes from a core or grinding and polishing at surfaces. While potting was an entirely new technology in Britain at the start of the Neolithic, stone knapping was very well established, and even pecked and ground axes that were not entirely removed from the polished axes of the Neolithic had been in use in some areas during the Mesolithic (David and Walker 2004: 325). The contrast is thus between a completely novel way of making things, and the making of new styles of artefacts using a familiar way of doing things. We have argued that Mesolithic people would not have been able to begin making fine pottery vessels on the basis of merely having seen such objects, and that the establishment of such a skilled craft in Britain would have required at least a temporary cross-Channel exchange of personnel. This would

not necessarily have been the case with lithics. A person already skilled in invasive retouch and pressure-flaking, and familiar with the principle of grinding and polishing stone, might conceivably have been able to replicate the new stone tools of the Neolithic without any direct contact with their makers.

It has been argued that stone tools were in some ways of greater importance to Mesolithic than to Neolithic communities. Where people obtain much of their food through hunting, they may invest time and skill in technology that can be relied upon to kill or incapacitate game animals during an encounter of limited duration (Myers 1989: 82). But beyond this, Warren (2006: 26) argues that stone tools represented a medium through which Mesolithic people engaged with their world, and acquired their understanding of it. In this way of thinking, technology is not simply a set of inert objects, but something that involves the performance of acquired skills, and which operates as an extension of the person. Technologies are social traditions (Dobres 2000), although it is arguable that Mesolithic stone tools were less engaged in the mediation of relationships amongst persons than those of the Neolithic, and more concerned with people's involvement in the non-human world. But as we saw in Chapter Six, an exception to this pattern lay in compound tools composed of numerous microliths, potentially embodying the work of multiple makers (Finlay 2003). Just as we have argued in the case of potting, the working of stone involves an immersive involvement with materials, the outcome of which is not entirely determined in advance. While a flint-knapper may have a clear idea of the kind of tool that they intend to make, this does not represent the imposition of an abstract template onto the material. The path from raw material to artefact may involve numerous detours, as the artisan turns the object over in their hands, corrects mistakes, and ponders the usefulness of each removal. In the case of Mesolithic assemblages, Warren (2006: 30) points out that while some microliths may be finely wrought geometric forms, many of the artefacts that were used were simply shattered and fragmented shards removed from cores, without further modification. Moreover, microliths were used for a variety of purposes, not simply as projectiles (Finlayson 2004: 224). Since the quality and quantity of raw material naturally available varied immensely from region to region, and the circulation of stone in exchange was quite limited, there is considerable variability in Late Mesolithic assemblages (Saville 2004: 185). However, the level of stone-working skill was generally high, and in some areas elaborate tools were made from good quality flint recovered from surface exposures (Care 1979: 95).

Early Neolithic chipped stone tool assemblages are distinctive in a number of respects. One key feature is their relative inconspicuousness. Excavated collections may be small, with a high proportion of tools, perhaps reflecting strategies for disposal of debitage, or a failure to identify sites where flintworking took place (Warren 2007b: 38). Early Neolithic material may sometimes be sparse in surface collection, owing to the deliberate burial of worked stone in pits (Healy 1987: 14), and where scatters are identified they may be spatially constrained, if dense (Bradley 1987: 184). Over the long term, between the Upper Palaeolithic and the Bronze Age, there was gradual decline in the quality of flintworking, as stone tools became less critical to the success of subsistence activities (Pitts and Jacobi 1979). One way in which this was manifested was in a slow shift from fine, long, prepared blades to thick, squat flakes. This process was at work across the boundary between the Mesolithic and the Neolithic, but the change was not

utterly abrupt. The investment of skill in stone tool manufacture was relaxed somewhat, but the Early Neolithic assemblage remained dominated by thin blades made from cores with prepared platforms, and as in the Mesolithic was geared towards portability (Edmonds 1987: 169). These cores were less regular than the pyramidal cores of the Mesolithic, but they were systematically worked down from a large size until exhausted, and were maintained through the removal of recovery and rejuvenation flakes (Edmonds 1995: 35; Warren 2007b: 37). Both soft and hard hammers were used, and in the north and west of Britain, where raw material was scarcer, bipolar working was employed as a secondary element (Warren 2007b: 38).

While the technology of flintworking showed a degree of continuity from Mesolithic to Neolithic, the tools being made changed significantly. Scrapers, fabricators, awls, and borers all continued to be made, although in some cases the scrapers were larger, especially those made on pieces removed during core preparation. Endscrapers and serrated pieces were made on flakes, reflecting the adaptability of the blade-core technology, in which tools could be generated quickly as the need arose. Serrated blades are often found to bear a gloss on their surface, indicating their use for cutting plant fibres (Edmonds 1995: 41). New tool-types included plano-convex knives, sickles, laurel leaves, polished axes of 'western' pattern, and leaf-shaped arrowheads (Fig. 11.8). These are generally tools that require a degree of skill in order to make them. The range of tools being made was usually rather narrow, and a number of authors have pointed out that this assemblage is remarkably homogeneous throughout Britain, crossing boundaries defined by monumental architecture or mortuary practice. Like fine Carinated Bowl pottery, the ubiquity of leaf-shaped arrowheads and polished stone axes suggests that they were not simply the most efficient means of achieving a functional end, but possessed a positive value or meaning. For the people who were adopting these new assemblages it was apparently important to use a set of artefacts that had been made in a particular way, and that were immediately recognizable. It is also highly significant that just as with pottery the new types of stone tools that were adopted in Britain were only a selection from those that were in use on the continent. Leaf-shaped arrowheads were a feature of the Belgian Michelsberg, but they are found alongside transverse and triangular forms (Raemaekers 1999: 142). If these tools were brought to Britain by migrants, we would have to explain why they left part of the assemblage behind. Yet if they were taken up by indigenes, it is perhaps to be expected that a distinctive and universally acknowledged material symbol of a new way of life might be preferred over a diversity of styles.

Some lithic materials, such as Arran pitchstone, circulated over appreciable distances during the Mesolithic. However, the quantities were limited, and only small chips and flakes passed from place to place, rather than finished artefacts (Warren 2007b: 36). The inter-regional exchange of stone tools and raw materials has long been recognized as a distinctive feature of the British Neolithic (Smith 1971: 102; Saville 1982). Interestingly, the evidence suggests that some of this activity began at the very start of the period. Chemical proveniencing of polished flint axes indicates that objects made of flint from the mines on the South Downs in Sussex moved very great distances (Craddock et al. 1983: 159). The presence of such an axe at the Sweet Track in Somerset corroborates the early commencement



Fig. 11.8. A leaf-shaped arrow-head, with a distinctive impact fracture suggesting that it had been used in anger, from Dorstone Hill, Herefordshire (photo: Adam Stanford)

of this dispersal (Coles and Coles 1986: 59). Recent work on the production and distribution of stone axes from the 'factory' sites in western Britain has indicated that fine stone tools made from distinctive materials travelled greater distances than more exclusively functional items (Bradley and Edmonds 1993: 172). The implication is of the existence of 'ranked spheres of exchange' (Douglas 1979: 95), in which more exclusive goods circulate under different conditions (socially and materially) than less highly valued ones. If so, the escalation of exchange during the Neolithic signifies not the development of more efficient means of transporting goods, so much as the emergence of classes of artefact that served to express and enhance the social standing of their owners. While the 'axe factories' may not have begun to be used on a large scale until the thirty-eighth century BC (Whittle, Healy, and Bayliss 2011: 782), the Sussex flint mines were probably established at an earlier date.

FLINT MINES

In western Europe the emergence of deep flint mines with shafts and galleries was a feature of the late fifth millennium BC, rather than the primary, 'Danubian'

Neolithic (Whittle, Healy, and Bayliss 2011: 782). Aside from the obvious investment of effort involved in this form of procurement, flint mining has been perceived as a significant development because it can be taken to imply craft specialization, sustained by centralized forms of social organization, and linked to coordinated forms of redistribution (Renfrew 1973b: 555). In other words, flint mines serve as an indicator of social ranking. Mining was intimately connected with the appearance of polished axes of 'Western' form, with an oval cross-section, very different in kind from the shafthole adzes of the *Bandkeramik* (de Grooth 2005: 243). These might well have been modelled on the Alpine jadeitite axes that were in circulation by this time. The digging of the cluster of mines on the Sussex Downs was therefore contemporary with or a little later than that of similar shafts in the Low Countries (Rijkholt, Sint Geertruid, Spiennes, and Mesvin) (Louwe-Kooijmans 1976: 251; de Grooth 1991: 159), northern Denmark (Aalborg, Hov, and Bjerre) (Jensen 1982: 100), and the Upper Vistula (Krzemionki) (Whittle 1985: 227). Axe production seems to have been a major element of the activity at all of these sites (Wheeler 2008: 159). Comparison with the Sussex sites reveals that the continental mines were sometimes very large indeed, as at Jablines, where the excavation of a strip 500 by 70 metres in extent revealed 769 mine shafts, or Rijkholt, where there are over 2000 shafts (Bostyn and Lanchon 1995: 298; de Grooth 2005: 243). Like the British mines, the continental examples often contain deposited human remains, such as the skulls at Rijkholt and Spiennes (Wheeler 2008: 160). However, one important contrast is that at Rijkholt, Spiennes, and Jablines flint axes were used for digging, in preference to antler picks, which were scarce (Collet, Hauzeur, and Lech 2008: 58). This provides a hint that continental practices were adapted to the insular setting.

The architecture of shafts and galleries links the South Downs mines to those on the continent, and strongly suggests that the technology of mining was introduced to Britain from outside (Fig. 11.9). A question that this immediately prompts is why mines should have appeared so early in the British sequence, while the causewayed enclosures that occurred alongside them in Europe (closely juxtaposed at Spiennes, for example) did not arrive for a further 300 years. The argument that immigrant communities would have needed to achieve some kind of 'critical mass' before embarking on enclosure-building is a teleological one, since it implies that Neolithic societies would have automatically acquired enclosures when they reached a certain size threshold or level of organization. Purely in terms of scale, the flint mines represented a discontinuity with previous forms of lithic procurement (Edmonds 1987: 169). Yet even in Sussex their products were not widely used for mundane purposes, and material from beaches, river gravels and clay-with-flints deposits continued to be acquired for everyday purposes (Holgate 1995: 135). So what marked flint mines out from the Mesolithic procurement strategies that preceded them is that they represented extraction for exchange, reflecting the way that the circulation of artefacts now began to articulate social relationships. The largest mines in Sussex are at Cissbury, with 270 shafts, Harrow Hill with 160, Blackpatch with 100 and Church Hill, Findon, with 26. There are also smaller mines at West Stoke and Long Down, open-quarry pits at Tolmere, and single shafts at Slonk Hill and Nore Down (Holgate 1995: 135; Russell 2001: 225). It is important to point out that each of the larger sites is a palimpsest, built up over generations. Individual shafts might have been dug,

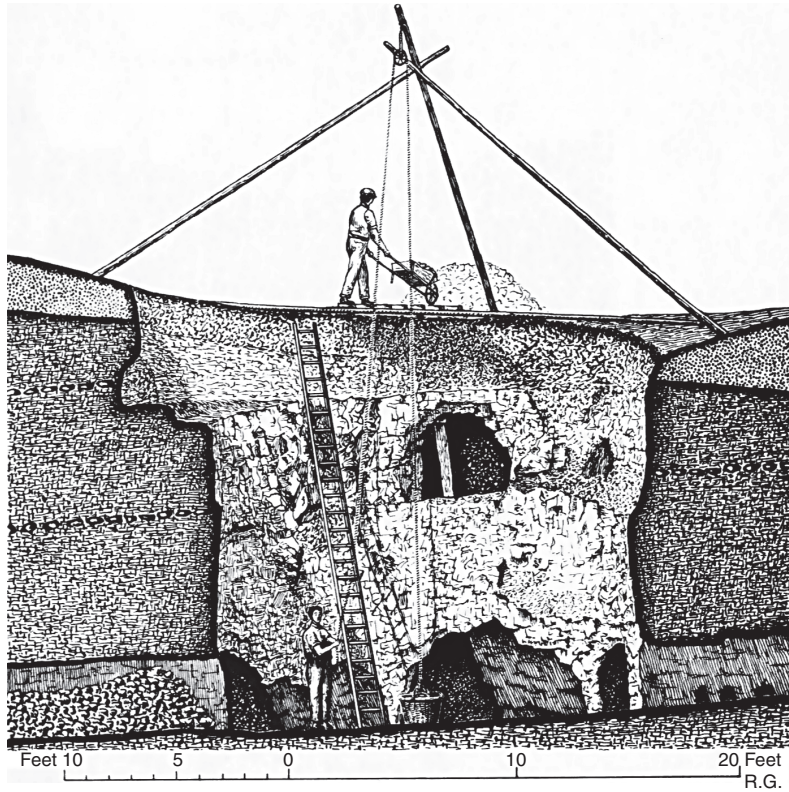


Fig. 11.9. Section of a flint mine at Harrow Hill, Sussex (Curwen Archive, reproduced by the kind permission of the Sussex Archaeological Society)

worked, and backfilled in a single season, and no more than one or two at any particular site need have been open at any given time. While some of the shafts at Cissbury and Blackpatch contained silt deposits, others had been backfilled before sedimentation had begun, suggesting a short use in the dry months (Holgate 1995: 153; Barber, Field, and Topping 1999: 62).

The available radiocarbon evidence from the Sussex mines is not yet extensive, and some of the dates suffer from large standard deviations (Barber, Field, and Topping 1999: 2). However, Bayesian analysis of the dates suggests that flint mines on the South Downs began to be worked in 4020–3855 cal. BC (at 68 per cent probability) (Whittle, Healy, and Bayliss 2011: 256). This represents some of the earliest documented Neolithic activity in Sussex, and it follows that mining can be understood as having a *foundational* role in the Neolithic of the area: something that had a role to play in the process of transformation, rather than a consequence of change. As an observation, it may be significant that Sussex is one of the areas of Britain that has not yet revealed any primary Neolithic timber halls. This may be an accident of preservation or limited investigation, but it remains a possibility that the beginning of the Neolithic had a subtly different character in Sussex than in other parts of southern Britain. At Harrow Hill it has been

suggested that open-cast mines may have preceded the deep shafts, but it is likely that the two forms of working coexisted from the start (Russell 2001: 227). The idea of entering the depths of the earth in order to acquire flint for special objects seems to have been a potent one. There is little evidence of occupation near the mines, with only shallow depressions or vague platforms hinting at possible dwellings (Barber, Field, and Topping 1999: 60; Russell 2001: 242). Nor do surface distributions of artefacts give the impression that mines were set in areas of dense settlement (Gardiner 1984: 26). Molluscan assemblages from Harrow Hill, Long Down, and Blackpatch demonstrate that the mines were dug in forest, rather than open grassland (Holgate 1995: 149). It is therefore likely that the earliest flint mines were rather remote places, visited sporadically rather than lived alongside, in much the same way as the stone axe quarries of the west (Bradley and Edmonds 1993: 42). Indeed, there is growing evidence that many of the British flint mines were only worked between spring and autumn (Topping 2011: 41).

The topographic location of the Sussex flint mines is of some importance. They do not appear to have been sited primarily to access the finest quality of flint, nor to follow particular deposits. It is possible that their position was influenced by other factors, including visibility or the established significance of their sites (Barber, Field, and Topping 1999: 53). Most of the early flint mines lay on the edge of the chalk downland, in tilting or false-crested locations. Cissbury and Church Hill faced each other across a valley, and would have been visible from the coastal plain, but not from elsewhere on the Downs or from the Weald further inland. A similar relationship existed between Harrow Hill and Blackpatch (Barber, Field, and Topping 1999: 57; Russell 2000: 140). Evidently the mines had been quite subtly positioned, in such a way as to be relatively conspicuous, but only from certain points of view. This is an interesting contrast with some of the ethnographically documented examples of mines used for the production of stone axes. In Papua New Guinea, the quarries utilized by the Tungei tribe are in a hidden location in the jungle, kept secret by the community (Burton 1984: 242). If the South Downs flint mines were at once removed from everyday activity and yet visible from a distance it follows that people would have been periodically reminded of their existence, as a remote but abiding presence. Over a period of time, mines would have generated conspicuous white spoil-tips, while their immediate surroundings would have been carpeted with knapping debris and abandoned axe roughouts (Edmonds 1995: 66). Whether seen from a distance or experienced at close hand, mines would have provided tangible reminders of the activity of quarrying and working axes and other tools. In the way that they built up through successive seasons of digging and procurement, it has been argued that flint mines would have taken on something of the quality of monuments. But like the long barrows, they primarily emphasized one aspect of Neolithic social life, in this case the production and circulation of stone tools, and particularly axes.

Although the working floors at Cissbury contained extensive evidence for the manufacture of blades and knives, axes were the dominant artefact type produced at the Sussex mines as a whole, to the exclusion of other tools in some cases (Curwen 1937: 102; Holleyman 1937: 242; Russell 2001: 240). It appears that a large proportion of the flint axes used in southern Britain during the Earlier Neolithic originated on the South Downs (Craddock et al. 1983: 161). We have noted that small numbers of polished axes were made during the Mesolithic, but

the circulation of Sussex axes from the start of the Neolithic represented a considerable escalation of the time and effort invested in the production of stone tools. Polishing the surface of an axe removes flaws and facets that might promote breakage during use, but this is really only justified on the cutting blade. The grinding and polishing of the entire surface of the implement creates an object that unambiguously embodies extensive human labour, while also expressing a message about its bearer (Edmonds 1987: 171). Alasdair Whittle makes the suggestive argument that these artefacts might be understood as 'gifts from the earth', which symbolized a relationship with the natural world (1995: 254). We might be entitled to think of flint mines as a means by which this reciprocity with the earth was emphasized and dramatized. It also represents one aspect of a growing interest in opening up or entering the earth from the start of the Neolithic in Britain. While caves had been used as places of burial during the Mesolithic (Conneller 2006: 154), the digging of pits and ditches and the deposition of cultural material in natural shafts and caves was a very distinctive feature of the Neolithic. Miles Russell (2000: 142) adds the important point that entry into the depths of the earth by way of a flint mine might have been understood as a rite of passage for those who experienced it. Being removed from the spaces of everyday life, mines might indeed have been liminal places, associated with both physical and metaphysical peril, where encounters with deities, ancestors, or presiding spirits might take place. This point is underscored by the observation that stone is often understood as a material that contains an inherent power, derived from supernatural beings (Taçon 1991: 195). Returning to their communities, persons who had taken part in flint mining might have enjoyed enhanced status. Equally, the recognition that flint axes originated in places of power and danger would only have enhanced their value. If Russell is right that people underwent changes of state in visiting the mines, so flint would have undergone a comparable transformation in being rendered into artefacts of a particular kind. We might go so far as to say that flint mines were places where both people and axes were 'made'.

While some of the literature has emphasized the 'industrialization' of lithic production at the flint mines, an alternative view is that the considerable effort involved in digging a deep shaft through as many as six seams of flint to arrive at the 'floorstone' represented a means of socially sanctioning the production of a particular class of artefact (Edmonds 1995: 63). Very often, large numbers of unbroken antler picks had been left in the shafts and galleries, sometimes seemingly in formal arrangements or significant locations. At Harrow Hill, the suggestion was made that the picks were crafted *in situ* (Curwen and Curwen 1926: 117), so that their entire working life would have been constrained within the space of the mine itself. As we have seen, the extensive use of antler for digging contrasts with the predominance of stone tools on the continent, and is a hint that mining was here being undertaken by a population who were intimately familiar with the habits and movements of red deer. The abandonment of antler picks in the features that they were used to excavate continued throughout the Neolithic, occurring at long barrows, causewayed enclosures, timber circles, and henges. It may indicate that this was simply a 'disposable' technology, but it is more likely that picks that had been employed in the construction of highly valued structures were deemed inappropriate for use elsewhere. Most of the preforming of the axes took place on knapping floors outside the mines, such as those which were

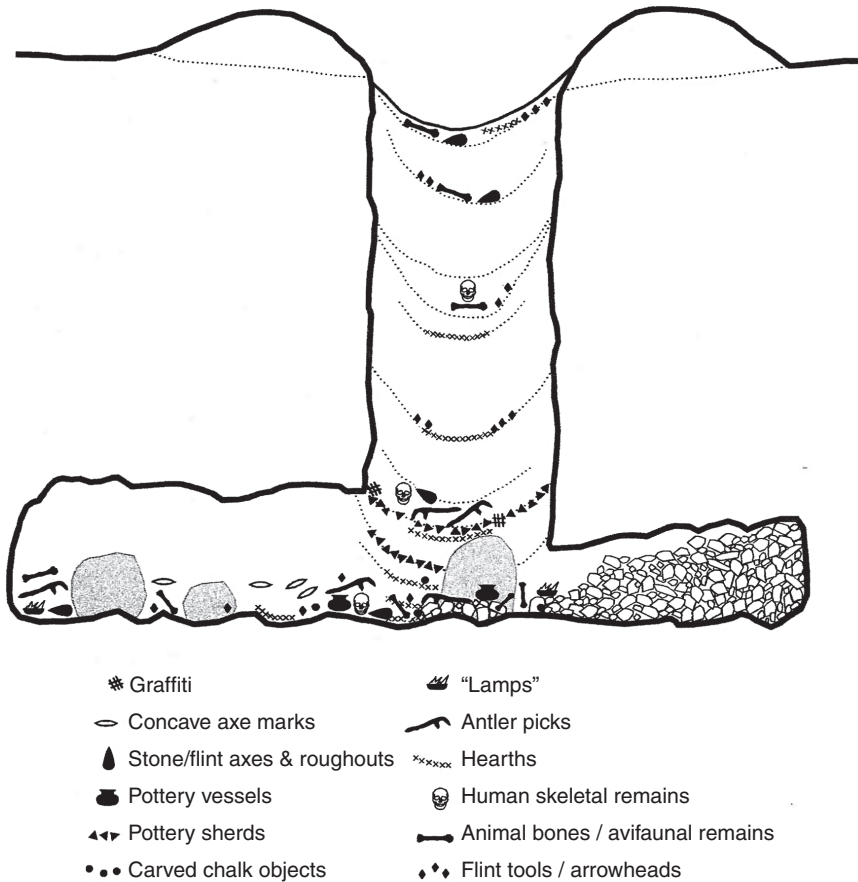


Fig. 11.10. A schematic recording the spatial and temporal distribution of artefacts and event horizons in the English flint mines (after Topping 2004, reproduced by the kind permission of Pete Topping and the Council for British Archaeology)

investigated at Church Hill and Easton Down in Wiltshire (Stone 1931: 358; Curwen 1937: 114). Numerous roughout axes, especially production failures, have been found on these floors, but axes with any degree of polishing are much more scarce (Curwen 1937: 129; Holleyman 1937: 237). There is actually no evidence that any grinding and polishing took place at the mines at all, suggesting that production involved a series of well-defined stages (Holgate 1995: 153).

Despite this, nests of flakes have also been found inside the entrances of galleries (Curwen and Curwen 1926: 114), and on the floors of the shafts (Goodman et al. 1924: 73). Yet it is the presence of flaking deposits within the deliberate backfilling of the shafts that particularly invites comment (Fig. 11.10). At Easton Down, all of the flakes and roughouts recovered in the excavation of the shaft were from the filling (Stone 1931: 353). If the shafts had simply been backfilled as an expedient means of disposing of spoil as new mines were dug, it

is difficult to see how dense concentrations of flakes (as opposed to diffuse scatters thrown in from above) would have formed within the filling unless the process had been periodically halted, and workers had clambered back down the shaft in order to undertake their knapping. At Stoke Down, the chalk backfill of the shaft was capped by a 40 centimetre thick layer of flakes, itself covered by a layer of chalk nodules (Wade 1924: 84). This suggests some degree of formality in the filling process. The care with which deposits were made and chalk returned into the ground echoes the constructional and depositional activities associated with earlier Neolithic field monuments. Moreover, large quantities of potentially usable flint were 'wasted' in these deposits (Russell 2001: 241). This could again be understood in terms of reciprocity, returning gifts to places presided over by powerful forces or beings.

Other deliberate deposits identified within flint mines include human and animal remains. Two cattle skulls were recovered from Tindall's pit at Cissbury (Willett 1875: 341), and a complete ox skeleton from Shaft 27 at Cissbury (Wheeler 2008: 160). These perhaps echo the discoveries of cattle bones in long barrows and causewayed enclosures, and the suggested close relationship between cattle and human communities (Ray and Thomas 2003). Human bones have been reported in articulated, disarticulated, and cremated form. Three skeletons were discovered in backfilled shafts at Cissbury, two female and one male, as well as a number of isolated skull fragments (Russell 2001: 238). One of these in Shaft VI was surrounded by a setting of chalk blocks, indicating that this was not simply someone who came to grief in an accident. Another from the same site (a young woman) was associated with an extensive spread of animal bones (Lane Fox 1875: 376; Curwen 1937: 109). The presence of female burials is especially illuminating, for it challenges the presupposition that only men would have visited and worked in the mines. Yet as a number of authors have pointed out, some of the entrances to the subterranean galleries appear too narrow for a fully-grown man to enter. Further evidence of burials being deposited with some formality came from Blackpatch, where a cremation was accompanied by a flaked axe, a flint scraper, a knife, and a carved chalk object, above a placed deposit of animal bone (Wheeler 2008: 160). The shafts at Blackpatch were also surrounded by a number of small barrows. Most of these are probably later in date, but Barrow 3 contained a funerary deposit which appears Neolithic in character. The mound covered one male and one female burial, associated with a leaf-shaped arrowhead, a flint chopper, several flint axes, and a boar's tusk (Curwen 1937: 118). The connection between the burial and the active use of the mine is assured by the way in which a flaking floor covered and sealed the mound, and Barrow 12 also appears to have been constructed while mining was going on (Field 1997: 66).

The close relationship between the mines and the dead could be explained in a number of ways. It might simply have been expedient to dispose of recently deceased people in shafts and galleries that were about to be backfilled, while mines may have been perceived as marginal locations, well suited to the presence of the dead. But it is also possible that like burials associated with houses these deposits had the effect of conferring sanctity on the mines, or of providing a physical connection between them and a particular social group. In this connection, it is instructive to recall Mark Edmonds' arguments concerning the social organization of the flint mines. Edmonds (1995: 65) suggests that the individual

shafts within the flint mine complexes represent distinct, bounded spatial units within which productive labour could take place. 'In this sense, the demarcation and sinking of shafts would have been both a product of group endeavour, and a medium through which the identity of that group was reaffirmed' (1995: 65). Beyond this, Edmonds proposes a distinction between the shaft, as the domain of the community, and the galleries, which might be identified with (and indeed construct) the single labouring person. We have noted already that the galleries were often very cramped spaces, which could barely be entered by more than one person at a time, while the shafts demanded labour on a scale that required the participation of a larger group. Perhaps significantly, the junction between the shaft and the gallery was sometimes marked by incised designs cut into the chalk wall. For instance, a chequerboard pattern had been scored over the entrance to Gallery VI at Harrow Hill (Curwen and Curwen 1926: 123), while at Cissbury a series of parallel marks had been scratched above the entrance to Gallery B (Harrison 1878: 415). At the same site, Lane Fox observed 'some rude scoring' over the entrance to one of the galleries in Number 2 Escarp Shaft (1875: 374). At Church Hill, curvilinear motifs were noted above three of the basal gallery entrances of Shaft 5 (Russell 2001: 235). Such motifs might easily relate to the 'ownership' of individual galleries, or simply delineate the transition between collective and personal space. So, as well as being dark and liminal places at which initiations and personal transformations may have occurred, and places where the dead were laid, flint mines were spaces within which the relationships between the members of a community were mapped, signified, and played out. Moreover, in the way in which their internal architecture choreographed the process of extraction and manufacture, flint mines and their associated artefacts were characteristic of the way that material things increasingly guided and sustained a variety of social practices from the start of the Neolithic. Where Mesolithic procurement of stone had taken place in open spaces, the acquisition of flint for the most significant artefacts was now contained and regulated.

Flint mines were places in which both the material wealth of communities and the identities of their members were created and transformed. They were 'containers', within which categories of things and persons came into being. Their use may have been the prerogative of particular social groups, and they had an instrumental role in enhancing the solidarity of those groups. They contained the remains of the dead, and were places in which both productive labour and secluded ritual took place. Being used from the very beginning of the Neolithic in Sussex, we have argued that they had a foundational role to play within the region, rather than simply reflecting an enhanced demand for fine stone tools. In a broad sense it is conceivable that flint mines had a social role that was comparable with that of 'houses', in that they were physical structures which established and sustained a social group, anchoring the community in the material world. We saw in Chapter Nine that a 'house' is a bounded collective entity, tied together by kinship or alliance, and possessing an estate of material and symbolic wealth (Helms 1998: 15). Flint mines were the places from which a very important element of that wealth, flint axes, issued. Entering into radiating patterns of exchange and circulation, these axes carried with them the fame and prestige of the house community, while also establishing ties with others. Carried and used by house members, axes served as tangible reminders of community affiliation. For

house societies, both material things and the management of transformative events (such as initiations and funerals) are means by which collective identity is stabilized (Helms 1998: 165). Flint mines were locations at which the production of a critical class of artefacts was sanctioned and regulated, but they were also bound up with the coming into being of new social forms.

CONCLUSION

Many of the interactions that Mesolithic people had with the world were mediated through stone tools. Chipped flint artefacts represented the critical points of contact with game animals, and the means by which knowledge of worked materials was generated. However, the beginning of the Neolithic saw an enhancement of the role of material things. Artefacts were central to the way that Neolithic societies sustained themselves: they formed the 'estate' to which people affiliated themselves, and which was passed down between generations. Material things stabilized social relations and gave form to social interaction; they provided the scaffolding onto which relationships were built, and the 'props' which enabled social life to be performed. To the extent that Neolithic artefacts were more thoroughly integral to social life, we might say that they took on some of the characteristics of social actors, or at least partners in sociality. Neolithic communities were hybrid entities composed of people, animals, and things. At the risk of speculation, is interesting that two of the key categories of material things that achieved great significance at the start of the Neolithic in Britain were ones with smooth, glossy surfaces. Both Carinated Bowls and ground flint axes were the recipients of large quantities of labour invested in their polishing and burnishing. It is familiar enough for artefacts to be compared in some ways with human beings (Kopytoff 1986: 74). Might the creation of objects with smooth, flesh-like surfaces have been a tacit recognition that instead of interceding between people and the outside world, artefacts now increasingly bore the responsibility for reproducing society?

Plants and Animals: Diet and Social Capital

LANDSCAPES OF PRODUCTION?

The change from food collection to food production has traditionally been associated with fundamental changes in the human environment. In the case of Britain, the coming of domesticated species is understood as having coincided with a technological revolution manifested in the use of polished flint and stone axes, which enabled deforestation to take place on a massive scale. From this point onwards, instead of living within nature, human beings were dominant over nature. The human impact was represented by the 'elm decline' revealed in pollen diagrams, possibly connected with a 'leaf fodder regime' in which leaves and shoots were fed to stalled animals. Later, more substantial *landnam* clearances involved the clear-felling of substantial areas of forest to provide cultivation plots and pasture (Pennington 1974: 66–71). However, the narrative of farming people entering a landscape of virgin forest and transforming it into a productive environment is historically implicated in European colonialism (Rival 1998: 15). In this scheme of things, farmers bring dynamism into landscapes that have hitherto been 'underused' by passive hunter-gatherers. For this reason, simple correlations between proxy indicators of environmental conditions and human activity are best approached with a degree of scepticism. Although it seems clear that the beginning of the Neolithic in Britain coincided with changes in vegetation cover, it is important to question exactly what these developments represent. Before we turn to the evidence for human relationships with animals and plants during the primary Neolithic, we need to consider the kinds of landscapes in which these interactions were set.

One aspect of this question that has been debated in recent years is the extent to which the onset of the Neolithic in Britain can be identified as a *consequence* of landscape change, an in particular of changes in climate. The Later Mesolithic and earliest Neolithic in Britain fell within the 'climatic optimum' of the mature post-glacial, which lasted until about 3700 BC. During this period, summers were warmer than at present, but winters were colder (Wilkinson and Straker 2008). Models of climatic determination generally rely on the notion that cultural changes are a response to extreme conditions (Harding 1982: 5), so it is not immediately obvious how these optimal circumstances should result in indigenous British populations being forced to adopt agriculture. However, Clive Bonsall and colleagues have argued that increasingly dry conditions after 4000 BC would have resulted in a longer growing season, making the potential yields from cereal cultivation much greater (Bonsall et al. 2002: 12). In coastal regions with gleyed

soils subject to seasonal waterlogging, areas that also had large Mesolithic populations, agriculture might now prove more attractive. Bonsall et al. (2002: 16) further argue that the period of several centuries during which the Neolithic had 'stalled' at the continental coasts and had not progressed to Britain was a result of the existing farming system having reached the limits of its viability, which were only extended by climatic amelioration. However, their evidence is principally drawn from the area around Oban in western Scotland, where conditions are very different from those in Kent, Essex, and Sussex, where the Neolithic first manifested itself in Britain. The environmental contrast between these counties on the one hand and Normandy and Picardy on the other seems unlikely to have delayed the spread of farming for the best part of a millennium. The argument that Bonsall et al. propose might accurately account for changing conditions in western Scotland, without explaining the Neolithization of Britain as a whole.

More recently, Richard Tipping (2010) has proposed a more modest version of the climatic change model. Tipping recognizes that the relevant sources of evidence (ice cores, pollen, storm beaches, etc.) are highly contradictory, and argues that rather than the late fifth millennium BC being a period of climatic amelioration or decline, it was one of greater unreliability and unpredictability. Until shortly before 4000 BC, ocean currents were disturbed and there was greater storminess, and shoreline resources were declining in their productivity. Consequentially, the more reliable and predictable returns offered by food production may have proved attractive to native communities, while calmer sea conditions would have rendered continental domesticated plants and animals more accessible. However, as Schulting (2010: 167) points out, the enterprise of correlating climatic change with cultural response is fraught with difficulties. The chronology of climatic change is a 'fuzzy' one, composed of multiple records with different levels of resolution, while it is not always the case that the correlation of events can be translated into causation (Schulting 2010: 167). Tipping acknowledges that the model is most germane to the north and west of Britain, and as with the argument presented by Bonsall and colleagues, it is hard to see how it can account for a process that began in south-east England, taking three centuries to arrive in western Scotland. At the national level, there seems to be no consistent correlation between changes in climate and vegetation cover over time (Woodbridge et al. 2012: 7).

WOODED LANDSCAPES

As recently as the Loch Lomond interstadial (9000–8300 BC) parts of northern Britain were effectively without trees, so the process by which woodland colonized the island in the post-glacial was comparatively swift (Tipping 1994: 9). Conventionally, the process of succession drove the emergence of a 'climax' closed-canopy woodland (Whitehouse and Smith 2010: 540). However, as early as 1954, Stuart Piggott had pointed out that this narrative might be over-simplified. Piggott proposed that a mixed oak forest had been characteristic of the mature post-glacial, with more elm in the calcareous regions. The arrival of Neolithic farmers was heralded by a decline in tree pollen and a rise in grasses and herbs.

However, he also noted that there was some debate over the extent to which the Wessex chalklands had ever been fully wooded, since molluscan faunas associated with Neolithic monuments often indicated the existence of well-established grassland (Piggott 1954: 6). Other indications that post-glacial landscapes in Britain had not been characterized by unbroken, homogeneous primordial forest were provided by pollen evidence for small-scale clearances during the Mesolithic. Some of these may have been anthropogenic, resulting from deliberate burning intended to open up areas in which animals and wild food plants would thrive, but many may have been caused by lightning-strikes, storm-throws, and tree-falls (Tipping 1994: 18). One recent study suggests that during the Later Mesolithic around 75 per cent of the British mainland was covered by deciduous woodland, with appreciable areas of semi-open country with sparser tree-cover (Woodbridge et al. 2012: 4).

An entirely different perspective on the post-glacial landscapes of Europe was offered by Frans Vera (2000), who argued that conventional pollen analysis had failed to recognize the extent of openness in pre-Neolithic woodland. Oak and hazel existed in profusion during the Mesolithic, and these would have required relatively open conditions in order to flourish (Birks 2005: 154). Vera described these environments as 'wood pasture', parkland mosaics of groves and meadows, within which fires and other disturbances were continually opening new spaces. Most importantly, large wild herbivores were the primary engine for the maintenance and extension of open grassland. However, there seems to be a consensus view that Vera's arguments are somewhat overstated. Large ungulates were widespread in Mesolithic Europe, but perhaps not as numerous as Vera implies (Hodder et al. 2009: 8), and it is not clear that wild species will prevent trees from regenerating in the absence of domestic livestock (Bobiec et al. 2011: 787). None the less, the legacy of Vera's contribution has been a growing recognition of the internal variability of the post-glacial forest. In Britain, it has been argued for some while that the composition of woodland would have varied considerably between regions, with alder dominating in wetter country, ash on calcareous soils, lime on other fertile soils, and oak in more acidic areas (Bennett 1989: 143). In Scotland, where conifers were more common, some woodland was always relatively open, especially at high altitude and further to the north (Tipping 1994: 16). Elsewhere, significant open areas were made up by marshes and meadows in the river valleys (Whitehouse and Smith 2010: 548). At the local level, small open areas would always have been present, attributable to soil variation, geomorphic processes, fire, storms, and tree-fall (Fyfe 2007: 576). Perhaps the most significant of these processes would have been wind-throw, which can open up quite large clearings, and these can take up to sixty years to fully regenerate (Brown 1997: 140, 2000: 50).

It is possible that the elm decline may have opened up further spaces in the woodland, which may have been opportunistically used for grazing cattle and sheep (Robinson 2000b: 31). However, the character of this phenomenon is still open to debate. The elm decline may have been caused by tree disease, human activity, climatic change, soil deterioration, or any combination of these factors (Tipping 1994: 22). Furthermore, the timing of elm declines on pollen diagrams from different parts of Britain covers a period of as much of a millennium, which

spans the Mesolithic-Neolithic transition. This makes it quite difficult to relate it directly to Neolithic activity. While the elm decline dates to around 3700 BC in much of south-west England, at Gors Fawr in West Wales it is dated to 4710–4500 cal. BC, and at North Gill in northern England the date is 4515–4345 cal. BC (Fyfe 2007: 575; Wilkinson and Straker 2008).

If there is evidence for sporadic human interference with woodland, the scale of this activity appears to have increased from the start of the Neolithic. Pollen diagrams reveal a decline of deciduous woodland and an increase in semi-open environments including heathland after 4000 BC, although these are modest when compared to developments in the later Neolithic and Bronze Age, with the most marked deforestation taking place in the second millennium BC (Woodbridge et al. 2012: 4). Small areas of open pasture are discernible in the earliest Neolithic, but arable activity appears to have been too small-scale to register at this level of resolution. Whitehouse and Smith (2010: 546) present an overview of beetle evidence from British archaeological sites, which suggests that from 3900 BC tree-loving species declined a little, while open country taxa increased and dung beetles became markedly more common. This pattern is very similar to than reported by Mark Robinson for Runnymede in the Thames Valley, where dense alder woodland began to be disturbed from the start of the Neolithic, accompanied by the appearance of significant numbers of dung beetles suggesting the grazing of large herbivores in woodland (2000c: 147). Further evidence of small-scale activity within woodland during the earliest Neolithic came from a pollen diagram from the Caburn in East Sussex, where cycles of interference and regeneration were accompanied by episodes of cultivation and the management of stands of hazel (Waller and Hamilton 2000: 268). Although some of this activity may have involved the felling of trees with axes, much of it may have been based on the exploitation of clearances created by wind-throws and lightning strikes, and the retardation of regeneration through grazing and the management of trees and wild plants (Brown 1997: 140).

However, this pattern of opportunistic use of small clearings in closed-canopy woodland may contrast with the situation on the Wessex chalkland. Here, much as Piggott originally suggested, molluscan evidence from monuments in the Stonehenge area, around Dorchester, and in the Allen Valley suggests the existence of long-established grassland (Allen and Gardiner 2009: 57). It seems that in some parts of Wessex woodland was slow to develop during the post-glacial. Here, calcareous brown earths were more suited to the formation of grassland (French and Lewis 2005: 130). Although these patches of open country owed their existence to natural factors, they may have been maintained and enhanced by the activities of humans and wild ungulates (Allen and Gardiner 2009: 60). So, unlike much of the rest of the country, parts of the Wessex chalk may have resembled Vera's parklands during the Mesolithic. As such, they may have been very suited to the grazing of cattle and sheep from the start of the Neolithic onwards, while plots for cultivation could have been established without the need to clear areas of forest. It is possible that the emergence of open landscapes containing large herds and flocks from a relatively early date may have contributed to the eventual foundation of monumental landscapes in these areas.

INHABITING THE WOODS

It follows from these arguments that the landscapes that were occupied by early Neolithic communities in Britain contained a preponderance of woodland, but were none the less patchworks of meadows, marshes, parkland, and groves, and that their composition was continually changing as old clearings regenerated and new ones were created by human and natural agencies. To some extent this configuration will have canalized human movement and encouraged repetitive and cyclical patterns of activity, since clearances of various sizes will have been linked by established pathways through the denser vegetation. As Austin (2000: 67) points out, woodland represents a kind of architecture, which both frames and channels the patterns of human interaction. People who live in forested environments are often deeply attentive to the composition of the woodland that they find themselves amongst, since trees and plants can be sensitive indicators of localized conditions, including moisture and soil fertility (Riegner 1993: 187). Moreover, forest-dwellers can generally identify the traces of past human activity: abandoned campsites and houses, cultivation plots in the process of regeneration, places where animals have been concentrated. Some of these will be places that are associated with past generations or the recently dead, and they may be either venerated or avoided (Gow 1995: 54). They are also often places around which stories gather, providing potent reminders of interpersonal relationships. In other words, woodlands come to be saturated with memories that build up through the habitual cycles of everyday life. At Hinxton and Barleycroft in Cambridgeshire, Evans, Pollard, and Knight (1999: 244) describe groups of tree-throw holes containing Early Neolithic pottery, and suggest that the bowls of fallen trees may have formed landmarks around which habitation may have clustered. Like pits, tree-throws appear to have provided contexts into which the debris of settlement activity was deliberately placed, both as a way of 'tidying up', and as a means of marking or commemorating an episode of occupation. As a result, these infilled tree-throws represent a further way in which the memory of human presence was woven into the fabric of inhabited woodland.

Yet the woods were more than the context of social life in the primary Neolithic. Woodland provides a range of important resources, from firewood to building materials. Recent high-resolution pollen analysis from the Warren Field timber building provided evidence that hazel was been managed for food and roundwood (Tipping et al. 2009: 146), and other foods such as berries, roots, and acorns will have been collected. Trees are often a source of medicinal products, and in contemporary Britain hawthorn, white willow, lime, elder, and oak are commonly used for remedies (Conway 2001: 7). Much of what took place in the woodlands would have been too fleeting and small-scale to register on pollen diagrams (Whitehouse and Smith 2010: 544), but the work at Warren Field revealed that the hall was surrounded by a clearing that may have been as much as 2500 metres in radius, which contained regenerating scrub woodland, stands of hazel, grass patches and cereal plots. Pollen from other sites in the broader region shows little hint of a contemporary human presence (Tipping et al. 2009: 147). These results underline the rather special character of timber halls discussed in Chapter Nine, and may not reflect the normal scale of activity, but they demonstrate the way that primary Neolithic practices were embedded in wooded landscapes.

Where clearance began to make appreciable inroads into the woods, Gordon Noble has suggested that there may have been a degree of cultural ambivalence over the destruction of a valued habitat (2006b: 55). Indeed, for most forest-dwellers their surroundings are not only an economic resource, but are imbued with meaning and symbolism. For the Dogon, for instance, the forest embodies a powerful life-force, and is a source of wisdom and understanding, but it is also home to dangerous spirits, and must be treated with care and respect (van Beek and Banga 1992: 67). Trees are a perennial source of symbolism, since they are composed of different parts, which are at once comparable to and different from the human body. Trees grow and die, embody life and fertility, and yet have a span of existence which is sometimes equivalent to that of many human generations (Davies 1988: 41). Ancient trees thus connect the past and the present, can be remembered from childhood, and potentially figured in the lives of ancestors (Rival 1998: 12; Austin 2000: 76). For this reason, they are often connected with the continuity of human communities, and symbolize kinship and descent (Bonnemère 1998: 127; Mauzé 1998: 237). As a result, trees are often employed in life-crisis rituals, such as initiations, marriages, and funerals (Rival 1998: 7).

As well as growing and maturing, deciduous trees renew themselves seasonally, growing new leaves, which in turn are shed in autumn. This means that they are readily accommodated to a cyclical conception of time (Austin 2000: 76). Not only may people be in different places, doing different things at different points in the year, but the whole appearance of the landscape is different, as are the experiences that it affords, including the depth of vision. Trees can be a manifestation of vitality, but they can also be associated with the dead. Sacred groves are often places where the physical remains of the dead are placed, or which are understood to contain their spirits (Uchiyamada 1998: 178). Individual trees or groups of trees may be places where offerings are made, and may even be the equivalents of shrines or temples (Rival 1998: 4). When conceived as a distinct entity, 'the forest' or 'the bush' is sometimes understood as being engaged in reciprocal relations with humans, a partner to be respected rather than a source of useful but inert matter. As a result, the products of the forest may retain something of its power, so that wooden objects are understood as vehicles for the life-force (Mauzé 1998: 240). Using particular trees for architecture can therefore constitute a means of deploying their symbolism, their meaning, or their perceived efficacy (Fernandez 1998: 87). For this reason, it is undoubtedly significant that timber halls, post-built cursus monuments, wooden mortuary structures, and other Neolithic monuments were overwhelmingly built from oak. Oak is a heavy, dense wood that is well suited to building, but it is not particularly easy to work, nor was it always the most common species in the post-glacial woodlands of Britain. For people whose lives were spent in largely wooded conditions, it may be that oak particularly embodied specific qualities of the forest connected with ancestry, descent and continuity. Later in prehistory, more specific evidence for the veneration of trees is suggested by Barrows 1 and 6 at Raunds in Northamptonshire, both of which consisted of ring-ditches constructed around tree-holes (or perhaps living trees) (Harding and Healy 2007: 211), and the upturned tree-base at the focus of the 'Seahenge' monument at Holme-next-the-Sea in Norfolk (Brennand and Taylor 2003).

CULTIVATED PLANTS

We have seen already that there is some debate over the date at which cereals began to be cultivated in Britain, for there are suggestions that precocious horticulture took place in the Irish Sea zone (Edwards and Hiron 1984; Innes, Blackford, and Davey 2003). However, there is much stronger evidence for the introduction of domesticated plants from continental Europe in the early fourth millennium BC (Brown 2007: 1048). The initial transfer of seed corn might have been achieved through person-to-person exchange (Fairbairn 2000: 117), but the growing of grain is a skilled process, and it is probable that people with some level of experience must have been involved in the first attempts at planting. However, this need not have required a wholesale movement of population so much as a transfer of knowledgeable persons between continental and British communities. The attraction of cereals for indigenous groups might have lain both in the possibility of a more reliable source of sustenance, and in the opportunity to create new foods, including bread, gruel, and perhaps beer (Milner 2010: 46). Neither of these points need necessarily imply that they immediately came to dominate British diets. McLaren (2000: 99) points out that the crops that were grown in prehistoric Europe were quite heterogeneous, and that not all strains of wheat or barley would have been suited to British soils. Some crops would have grown too swiftly on rich soils, and might have lodged if climatic conditions were inclement. Consequentially, she suggests that the earliest wheat crops in Britain are as likely to have come from Scandinavia as from France or Belgium. On the other hand, the low incidence of einkorn in Britain and Ireland is paralleled in some parts of northern France (McClatchie et al. 2012: 8).

The range of cultivated plants that was introduced to Britain at the start of the Neolithic was very narrow, and reflects the process by which the variety of species that had been introduced to south-east Europe became progressively restricted in northern latitudes. To some extent, this may have been because some of the plants concerned were poorly suited to north-west European environmental conditions (Conolly, College, and Shennan 2008: 2799). The principal wheat was emmer, although einkorn and various free-threshing wheats were present in small quantities, as well as barley and flax. The evidence for pulses (peas, lentils, and chick-peas) is virtually non-existent, but there are rare finds of opium poppy. There was no rye, and few oats (Fairbairn 2000: 109; Bogaard and Jones 2007: 358). This picture contrasts somewhat with the Michelsberg area, where assemblages are dominated by naked tetraploid wheat (Bakels 2007: 345). It is possible that some degree of selection was involved in the introduction of domesticated plants into Britain. Across north-west Europe, it is notable that the decline in the range of domesticated plants was complemented by an increasing representation of wild species. On LBK sites, peas and lentils are often present alongside cereals, but hazelnut shells and apple pips are very scarce, except in the Belgian Hainault, on the north-west fringe of the tradition (Salavert 2011: 324; Bakels 2012: 1). Collected plants are much more common in the north German, Danish, and Swedish TRB, but these do not approach the quantities often found of British Neolithic sites (Kirleis et al. 2012: 229). This pattern may be related to the greater importance of livestock in the Neolithic of north-west Europe: where animals

become central to subsistence, both wild and domesticated plants may serve as secondary sources of sustenance.

Over the past two decades, two opposed views have characterized the debate on horticulture in Neolithic Britain. From one perspective, arguably based on models that had initially been formulated in the context of the Greek Neolithic, cereals were the dominant source of plant food (and indeed the central element in human diets) through the entire period (Rowley-Conwy 2000: 50; Bogaard and Jones 2007: 357). In the other, cereals were present throughout, but may sometimes have amounted to no more than a special food, eaten under prescribed conditions (Richmond 1999; Thomas 1999: 24). This latter view does not always imply that shifting cultivation was being practiced, merely that cereals were cultivated in small quantities (a point that appears to be missed by Isaakidou 2011: 93, 106; and McClatchie et al. 2012: 3). The accumulation of new evidence in recent years, and the emergence of a more fine-grained chronology, requires that both of these views should be modified. At some points during the Neolithic cereals were very scarce in some parts of Britain, and may even have been abandoned altogether (Stevens and Fuller 2012: 715). But during the period covered by this book (roughly 4050 to 3650 BC) the pattern was probably somewhere between the two extremes of opinion: cereals were widespread throughout the mainland, but generally harvested and consumed alongside a range of collected foods.

The 'minimalist' view of Neolithic economies was originally set out in two papers published in 1989. One of these focused on the comparative poverty of carbonized cereal remains and appropriate storage facilities, when considered alongside the rich evidence for the consumption of wild plants (Moffett, Robinson, and Straker 1989: 243). The other took a broader view of Neolithic subsistence practices, arguing that rather than settled mixed agriculture and dairying, the period was characterized by transient, hoe-based horticulture (Entwistle and Grant 1989: 203). Both pointed to the limited evidence for human impact on the landscape during the Neolithic, and argued that formal land division and year-round sedentism based primarily on cereal agriculture had not developed until the middle of the Bronze Age. Moffett, Robinson, and Straker were careful to maintain that cereals were routinely consumed throughout the Neolithic, but they also emphasized the very common representation of hazelnut shells in carbonized assemblages, together with rarer examples of crab apple, raspberry, and blackberry pips, as well as sloe and hawthorn stones (Moffett, Robinson, and Straker 1989: 246; Robinson 2000: 85). If anything, wild foods are likely to be under-represented in these assemblages, for large fruit stones rarely survive, while leafy green plants which require no processing are unlikely to be exposed to fire and become carbonized (Stevens 2007: 381). The potential contribution of gathered species to diet is indicated by the waterlogged Early Neolithic assemblage from the Stumble in Essex, which contained fruits, roots, and tubers alongside a large number of cereal grains (Murphy 1990: 23). That this combination of wild and cultivated plants was a distinctive aspect of Neolithic subsistence is indicated by the comparative lack of hazelnut shells from Iron Age and Roman contexts (Jones 1980: 62).

Moffett, Robinson, and Straker further noted that the relative incidence of wild and domesticated plants appeared to vary geographically, with cereals being especially numerous on the Wessex chalklands and hazelnut shells dominating

on the gravels of the Upper Thames Valley (Robinson and Wilson 1987: 33; Moffett, Robinson, and Straker 1989: 247). To some extent the distinction between 'wild' and 'domesticated' plants breaks down once one recognizes that hazel woodland can be managed to maximize nut yields, and that this may have begun in the Mesolithic (Schulting 2008: 94). It might be more helpful to distinguish instead between 'novel' and 'traditional' resources. In any case, the argument has been made that the two were integrated in a broad-spectrum economy during the Early Neolithic (Entwistle and Grant 1989: 203; Stevens 2007: 382). One of the advantages of combining cereals with diverse gathered foods lies in insuring against the risk of crop failure, which can be catastrophic if there is too much of a dependence on a single plant resource (Fairbairn 2000: 117). Legge (1989: 219) points out that the gathering and processing of hazelnuts is costly in terms of the time invested, but much the same might be said of cereals, which demand a considerable input of labour in planting, weeding, scaring off of birds and other pests, harvesting, and threshing. The kind of broad-spectrum subsistence economy that is proposed has been reported in the Neolithic of the Low Countries, where Swifterbant communities cultivated small cereal plots, and consumed the crop alongside hazelnuts, apples, hawthorn, and blackberry, as well as animal products (Cappers and Raemaekers 2008: 388).

As we saw in Chapter Five, the arguments against a low dependence on cereal crops during the Neolithic have generally been framed in terms of the contrasting taphonomy of cereals and hazelnuts, the most commonly represented wild plant food in Neolithic assemblages. Cereal grain is the part of the plant that is eaten, while the waste product of eating grain is chaff. Of this, straw and rachis fragments are generally detached in threshing, leaving glume bases as the part of the plant that is most likely to enter a settlement (Jones 2000: 81). It follows from this that glume wheats like emmer and einkorn are more likely to be exposed to fire than free-threshing wheats (Fairbairn 2000: 109). Cereal grains will generally only become carbonized as a result of accidents, whereas hazelnut shells may be deliberately thrown onto a fire once separated from the kernel (Jones and Rowley-Conwy 2007: 400). Both nutshells and chaff may be used as kindling, but chaff is less dense than nutshell, and thus less likely to survive in a fire. Chaff also has other potential uses, such as fodder for animals, building material, and as temper for pottery (Jones 2000: 80; Stevens in Allen, Leivers, and Ellis 2008: 272). The claim is, then, that hazelnut shells are disproportionately represented in the archaeobotanical record, while the presence of any carbonized grain at all suggests that cereals were present in appreciable quantities.

However, it may be that Jones and Rowley-Conwy have overstated the taphonomic contrast between these two plant foods. On the basis of experimental work, McComb (2009: 227) notes that 'when thrown onto a fire hazelnut shells usually quickly burn up and disappear'. So it is not automatically the case that discarded shells will be preserved. In order to become carbonized at all, nutshells have to be separated from the air by ash or soil. The experimental evidence indicated that hazelnut shells had to be covered by a layer of wood ash at least 8–10 centimetres thick for this to occur (McComb 2009: 227). A further taphonomic factor that Jones and Rowley-Conwy fail to take into account is the systematic recovery bias in favour of cereal grains. Although hazelnut shell is often recognized as potential dating material, cereal grains are associated with *agriculture*, and are consequently

afforded special treatment. The visual recognition of cereal grains in a feature fill is therefore more likely to trigger the collection of a bulk sample for flotation. Archaeobotanists sometimes consider nutshell relatively unimportant, and this prejudice is manifested in the way that it is often only noted as being 'present' or 'numerous', while cereal grains are individually counted. Furthermore, as we noted in Chapter Five, neither Jones nor Rowley-Conwy have addressed the presence of cereals and wild food plants in waterlogged assemblages in proportions broadly similar to those in carbonized samples. These are conditions under which entirely different taphonomic factors apply, and there is less reason for cereals to be under-represented (Moffett, Robinson, and Straker 1989: 246). The implication is that the comparative abundance of nuts, berries, and fruit in the British Neolithic is not exclusively an artefact of preservation.

Of the archaeobotanical assemblages listed by Jones and Rowley-Conwy (2007: 392–6) and Bishop, Church, and Rowley-Conwy (2009: 63–71) only a minority relate to the primary Neolithic period discussed in this book. These vary from the cereal-rich pit-contents at Rowden and Coneybury to the hazelnut-dominated deposits beneath the Gwernvale long cairn and in the Dorney middens (Moffett, Robinson, and Straker 1989: 247; Allen, Barclay, and Lamdin-Whymark 2004: 91). Overall, cereals tend to occur at very low densities on Neolithic sites. While later prehistoric sites usually have ten to twenty grains in each litre of soil, Neolithic contexts produce less than one grain per litre (Stevens 2007: 381). Low-density samples routinely occur wherever large-scale flotation is undertaken, both in Britain and Europe (Rowley-Conwy 2000: 50). However, while samples of this kind are recovered from Bronze Age and Iron Age contexts, the overall level of representation is lower for the Neolithic, and the contrast can even be recognized within single sites. At Rowden, only forty-one cereal grains were found in Neolithic contexts, in contrast with much denser finds from Bronze Age layers (Carruthers 1991: 108). Similarly, at the Kingsborough causewayed enclosures, Later Bronze Age and Iron Age contexts contained much more cereal and chaff than Neolithic ones (Stevens in Allen, Leivers, and Ellis 2008: 272). Furthermore, where only very small numbers of grains are present in a context, there is a significant possibility that they are intrusive, derived from later deposits (Stevens and Fuller 2012: 711).

Over and above the sparse representation of cereal grains at Neolithic sites, chaff and weeds of cultivation are often extremely scarce, as in the case of the Hazleton midden (Straker 1990: 215). This is curious, for at later sites charred grains and processing waste are often found together (Stevens 2007: 377). There is some difference of opinion over whether glume wheats, and particularly emmer, require parching to separate the grain from the spikelets (Bogaard and Jones 2007: 364; Stevens 2007: 377). Parching accidents should be expected to produce carbonized assemblages composed of both grain and spikelets, and such assemblages are common in the continental European Neolithic, and indeed in the British Bronze Age and Iron Age. This is because hulled cereals can be stored in the spikelet, following harvesting and threshing, and parched and pounded in small quantities as part of the process of baking or preparing a meal (Cappers and Raemaekers 2008: 389). This is quite different from the situation with free-threshing cereals, which begin to scatter their grains as soon as the crop is ripe. The crop may be harvested before fully ripe and, following after-ripening,

threshing removes the grain from the chaff. The presence of emmer wheat grains in the absence of appreciable numbers of glume bases is therefore puzzling. Stevens (2007: 379) suggests that the reason for this may have been that all of the stages of processing, including de-hulling, took place immediately after the harvest in the late summer, in the fields and before the resulting grain was brought back to dwelling areas. This would have reduced the bulk of the crop considerably, and would have made it more portable while reducing the space required for storage.

However, storing grain on the ear protects it from both damp and disease (McLaren 2000: 91). It is therefore unlikely that de-hulling would have been performed at harvest-time without a very good reason. It may be that cereals were only consumed for part of the year, and consequentially did not need to be preserved for long. Alternatively, the portability of clean grain may have been important to semi-mobile communities. But it is also possible that not all of the population of Neolithic Britain were directly involved in cereal-growing, and that bags of grain were passed between social groups, or between different elements of a single larger community. This would indicate the existence of a complex division of labour, as opposed to a 'mixed farming' regime in which each small farmstead group cultivated plants and kept a range of livestock. This much is implied by the way that different animal species appear to have been nurtured in different ways, in separate areas of landscape, by different people (Serjeantson 2011: 35). Rather than being composed of small domestic groups, Early Neolithic communities were presumably quite large, and composed of various segments who each focused on raising or collecting different resources, with the whole integrated through the exchange of foodstuffs (Fairbairn 2000: 118). This would have had the effect of mitigating the risk of failure on the part of any one food source. Cereals in particular might have been a highly valued, eaten sparingly or at special occasions, or consumption may have been concentrated at times of year when other foodstuffs were scarce.

Recently, Bogaard and Jones (2007) have offered a comparison of carbonized plant assemblages from Neolithic Britain with their central European counterparts, and in particular material from *Linearbandkeramik* contexts. Their intention is to demonstrate that the systems of cereal agriculture in Britain and Europe were essentially similar, and to this end they focus on the occurrence of cereal grain, the occurrence of cereal chaff, and the evidence of arable weed assemblages. Tellingly, they do not compare the representation of wild plants in the two areas. Archaeobotanists working on LBK sites have often pointed out that 'the plant remains recovered from the settlements include only the odd fragment of a hazelnut, apple, elderberry or sloe and a few seeds of fat hen' (Bakels and Zeiler 2005: 313). At the settlement of Heinheim there were thousands of domesticated plants, including cereal grains and chaff fragments, peas, lentils, and flax, but only a single hazelnut shell (Bakels 1978: 178). Nutshells are generally scarce on LBK sites, and are usually no more common than on Roman sites (Kreutz 2007: 269). Rowley-Conwy (2000: 50) suggests that the contrast between British and continental sites can be attributed to contextual differences: the LBK samples come from houses, while the British ones are predominantly from pits. However, it is clear that Kreutz's (2007) work relates to pits as well as house contexts, while the early Neolithic halls of Britain often contain as many nutshells as cereal grains. This is

not to suggest that Bogaard and Jones are wrong in claiming that cereal-growing in Britain took the form of long-lived small-plot horticulture, and certainly not to claim that slash-and-burn was being practiced. But it is more questionable whether this activity formed the core of Early Neolithic subsistence practices in Britain, to the exclusion of food gathering, and contributing as much or more to diets than animal protein.

CEREALS IN CONTEXTS

As noted above, the majority of sites in Britain that have produced carbonized botanical material of Neolithic date are pits. There is some debate concerning the significance of material recovered from these contexts. For instance, Legge (1989: 222) argued that pits might have been 'used for a ritual purpose', and that this might make their contents unreliable as an economic indicator. Similarly, Rowley-Conwy notes that pits may have had a 'non-domestic function' (2000: 49), while Bishop, Church, and Rowley-Conwy suggest that they may have served as 'places of structured deposition' (2009: 82). We can happily concur with the last of these statements, but it is wise to consider exactly what it implies. There is a growing consensus that Neolithic pit-fills are the products of episodes of deliberate deposition related to the human occupation of particular locations (see papers in Anderson-Whymark and Thomas 2012). In some cases these may be associated with the abandonment of a short-lived habitation site, involving the gathering-up and deposition of occupation residues (Pollard 2001: 323; Garrow, Beadmoore, and Knight 2005: 152). The act of deposition itself would certainly have been 'structured' to some degree, and might have involved ritualized action, but the materials concerned would have been drawn from everyday life (although in some cases items incorporated into the pit-fill appear to have been selected). As Duncan Garrow puts it, these assemblages were 'neither wholly ceremonial nor completely mundane' (2012: 222). They need to be interpreted with care, but they are not wholly divorced from domestic activities. In many cases the pit-fill is largely composed of burnt material, including ash and hearth-debris, which may have been chosen as being redolent of dwelling and household occupation. If this material had been scooped up from a living surface, it may be that the seeds and shells found within it were the products of domestic spillages, later incorporated into the substance of hearths. That is, they may have been ambient matter within the occupation site, as much as the products of crop-processing, kindling, or the disposal of waste in the hearth, and their charring may have taken place after they were drawn into the mess surrounding a hearth.

Not all British Neolithic botanical samples produce low densities of cereals and chaff. There are high-density samples, and these tend to fall into three groups: caches, samples from causewayed enclosures, and assemblages from timber halls. Caches like those from Aston-on-Trent, Woodham Water, and the ditch of the Late Neolithic henge at Coneybury undoubtedly demonstrate that grain crops were being grown in the period, but they cannot be taken as a typical by-product of everyday subsistence activities (Moffett, Robinson, and Straker 1989: 246). There is a level of agreement that the assemblages from causewayed enclosures

such as Hambledon Hill and Etton are in some senses 'special' (Bogaard and Jones 2007: 361). Like caches, they are informative rather than representative. The principal area of debate therefore concerns the status of botanical samples retrieved from the large timber buildings of the earliest Neolithic. The attraction of material recovered from a substantial dwelling structure is self-evident: 'a burnt longhouse provides a data capsule recording what was in store at a particular point in time' (Rowley-Conwy 2000: 48), and greater quantities of cereals are to be expected on domestic as opposed to ceremonial sites (Jones 2000: 81). However, the interpretation that has been placed on this material rests on two assumptions: that the Early Neolithic halls were farmsteads typical of habitation practices at the time, and that the cereals that they contain had been preserved by accidental conflagration (Jones and Rowley-Conwy 2007: 404). The counter-argument is not so much that they were 'ritual structures' (whether or not this was the case), but that the halls and their contents do not constitute a representative sample of Early Neolithic settlement and subsistence.

In one sense the atypicality of halls lies beyond question. As we saw in Chapter Nine, halls were not characteristic of the entire Early Neolithic, and were only built and used during the first few generations of Neolithic activity in any particular region. Hall-building was a process or phase that communities went through. Nor, on the British mainland (as opposed to Ireland), are these structures numerous enough to have been occupied by other than a small minority of the population at any given time. None of this negates the possibility that the buildings were lived in (for some or all of the time, by some or all of a social group), or used for the storage of produce, or that crop processing took place within one or more of them. Quantities of chaff were found in the western part of Lismore Fields I, while Balbridie contained large amounts of grain but no chaff (Jones and Rowley-Conwy 2007: 405). Indeed, there is little chaff present in any of the Scottish halls (Bishop, Church, and Rowley-Conwy 2009: 82). Yet the Scottish buildings also contained numerous hazelnut shells, and at Claish these outnumbered the seeds.

In Chapter Five we discussed the evidence that indicates that many of the halls had been deliberately burnt down. It follows from this that unless stores of cereal had been left in the buildings in error, the carbonized grain from these sites must represent the outcome of either sacrifice or conspicuous consumption. Commenting on this argument, Jones and Rowley-Conwy point out that buildings such as Yarnton and White Horse Stone contain little or no wheat or barley. They suggest that if halls were intentionally burned 'they might be expected *always* to contain quantities of charred cereal grain' (Jones and Rowley-Conwy 2007: 406). This is a rather curious argument. Why should the same kind of material be deliberately wasted in every timber hall that was destroyed by fire? Where buildings were purposefully burned in continental Europe the range of materials placed inside them was very diverse, ranging from human and animal bodies to nests of whole pots (Chapman 1999: 118–19). Yet cereal crops are well suited to this kind of treatment, since in addition to their inherent value they are freighted with the symbolic connotations of fertility, the land, and the investment of human labour (Fairbairn 2000: 115). Where the hall acts as the material embodiment of the 'house society', which may itself be to some degree personified, its 'death' and

consignment to memory would be enhanced by the fire's consumption of a rich source of human nourishment.

Although to date there is little published detail regarding the context of the cereals and other plant remains from the Balbridie hall (Fairweather and Ralston 1993: 317), in two cases the purposeful destruction of grain within timber buildings seems to be beyond doubt. At Warren Field, the great bulk of the cereals came from three features. Two of these, Pits 30 and 89, were identified as deliberate deposits. The richest was Pit 30, which was one of the 'axial pits', which had contained a non-structural post that was removed before the building was fired (Murray, Murray, and Fraser 2009: 39). As the post-removal formed part of the 'decommissioning' of the hall, the deposit containing the cereals must have been placed immediately before it was set alight, or subsequently. Significantly, Pit 30 was also the context that contained the greatest density of pottery within the site. All of the grain had been processed and cleaned before deposition, and botanical samples from elsewhere in the building were dominated by hazelnut shells (Hastie and Timpany 2009: 44). Similarly, at Claish, the majority of the cereal grains came from the two axial pits, F15 and F19. These pits also contained crab apple pips and hazelnut shells, and hazelnuts dominated all of the other contexts in the hall (Miller and Ramsay 2002: 96). As at Warren Field, the probability is that the cereals were deposited after the axial posts had been removed, and in preparation for the destruction of the building. Pit F19 was also comparable with Pit 30 at Warren Field in that it contained half of the pottery from the entire site (Barclay, Brophy, and McGregor 2002: 79).

The Scottish halls are also of interest in that the botanical assemblages recovered from them stand out from others in the region. Throughout Scotland the predominant Neolithic cereal crop was barley, yet the halls have all produced samples dominated by wheat (Bishop, Church, and Rowley-Conwy 2009: 88). This brings to mind the argument that both the cultivation and the consumption of cereals may be important ways in which social groups define their identities (Hastorf and Johannesson 1994; Fairbairn 2000: 119). It is therefore interesting that although Balbridie and Warren Field are located close together, and were apparently in use at much the same time, they have starkly contrasting plant assemblages. Warren Field had 65 per cent bread wheat and only 2 per cent emmer, while 80 per cent of the cereal at Balbridie was emmer, the highest proportion anywhere in Scotland (Fairweather and Ralston 1993: 317; Bishop, Church, and Rowley-Conwy 2009: 88). Bishop, Church, and Rowley-Conwy argue that the Scottish halls may have been high-status settlements, or the dwellings of continental migrants with different cultural preferences from the indigenous people (2009: 89). But if we follow the arguments proposed in Chapter Nine, it may be that special meals were eaten in these buildings, and that these served to enhance the solidarity of dispersed communities. If Balbridie and Warren Field were used by competing social groups, then entirely different foods may have been consumed by their rival constituencies, as a means of emphasizing their differences. As bread wheat contains a high level of gluten it is more suitable for baking, while emmer is more fibrous, and likely to have been consumed as gruel or porridge if bread wheat were not added to it. The experiences of eating these two foodstuffs would therefore have been very different.

THE CHARACTER OF CULTIVATION

One of the observations made by Moffett, Robinson, and Straker in their 1989 paper was that the weed spectra that are generally associated with plough agriculture are absent from British Neolithic contexts (1989: 246). The principal piece of evidence that is routinely cited for the use of the plough during the Early Neolithic is the set of ard marks discovered beneath the South Street long barrow (Ashbee, Smith, and Evans 1979: 282). These are scored deep into the native chalk, and it is highly unlikely that they could have been made by a light bow or crook ard (Fig. 12.1). Reynolds (1981: 104) suggested that they might not have been generated by routine ploughing at all, and might relate to a much heavier instrument, used for preparing woodland or scrub before use for cultivation or pasture. By contrast, the Neolithic plough marks at the Links of Noltland in the Orkney Islands are much more characteristic of repeated ploughing using a light ard (Clarke and Sharples 1985: 73). That the evidence for ploughing is stronger in the Scottish islands than on the British mainland (albeit in a Late Neolithic context) is a point to which we will return. The arthritic changes on the bones of cattle from the causewayed enclosure at Etton are indicative of the animals having been used for traction, and this might or might not have been connected with ploughing (Armour-Chelu and Clutton-Brock 1985). However, similar evidence from other sites is scarce (Schulting 2008: 99; Serjeantson 2011: 22). This suggests that the kind of horticultural regime described by Isaakidou (2011: 105), in which draught cows supported intensive cultivation, was not common in Early Neolithic Britain.

If the use of the plough was sporadic or absent during the earlier Neolithic, the likelihood is that horticulture was intensive rather than extensive, carried out in small 'garden' plots using hoes, spades, and digging-sticks. This small-scale cultivation has sometimes been associated with slash-and-burn, swidden, or short-fallow systems. However, the clearing and burning of an area of forest or bush and planting for only one or two seasons before moving on is generally a way of coping with the poor soils of northern latitudes and the swift leaching of nutrients out of tropical forest soils (Rowley-Conwy 1981: 94, 2003: 118). Experiments in temperate areas demonstrate that plots can be cropped for many years without appreciable soil depletion (Bogaard 2002: 156). Experimental plantings in the Hambach Forest have also identified the kinds of weed spectra that might be expected if short-term cultivation is undertaken in areas recently cleared of woodland. These weeds tended to be dominated by perennials. Bogaard and Jones (2007: 367) point out that in both LBK contexts in central Europe and the British Neolithic, the weeds of cultivation included numerous annuals, although the proportion of annuals was actually higher in Ireland (McClatchie et al. 2012: 4). On this basis that they propose that long-term, stable horticulture was practiced in both regions, with plots being cropped for at least ten successive years (Bogaard and Jones 2007: 370). However, it is very unlikely that the small numbers of garden plots in use in the Early Neolithic would always have been laid out in recently cleared woodland. Much less effort would have been required to fit them into established clearings, whether generated by animals, wind-throw or lightning-strike, or existing grassland. Rather different weed spectra would have been generated as a result, and this means that Bogaard and Jones' argument

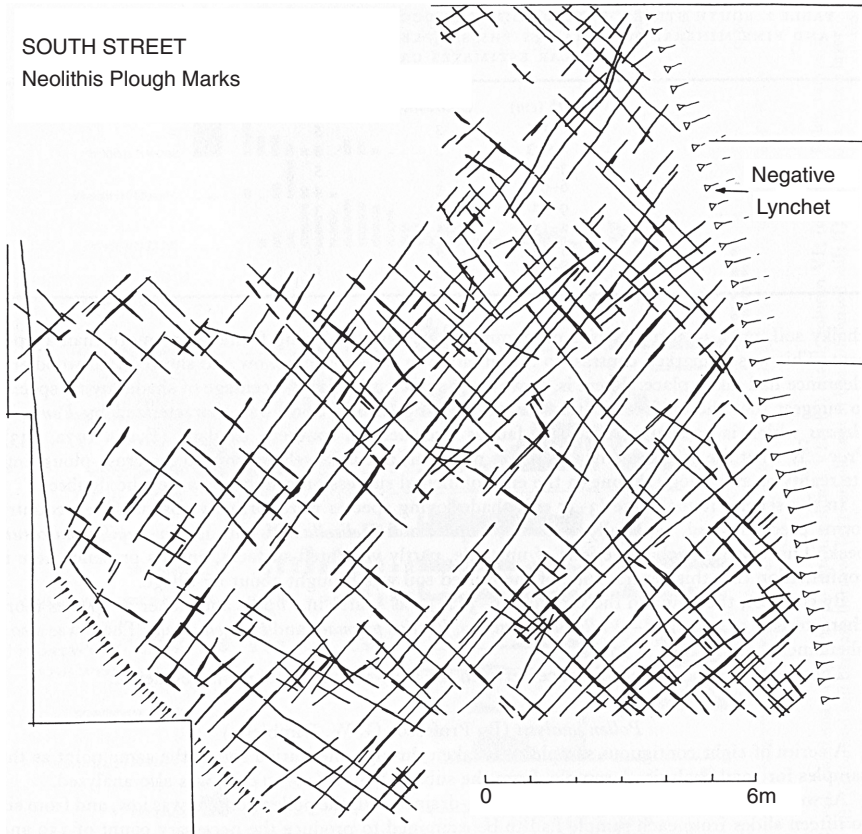


Fig. 12.1. South Street: plan of Neolithic cultivation marks (from Ashbee, Smith, and Evans 1979, reproduced by the kind permission of the Prehistoric Society)

is less strong than it initially appears. Furthermore, it is possible that cereal gardens were more common in landscapes that were already relatively open, including Wessex and parts of Scotland.

This is still not to imply that swidden agriculture was being practiced in Neolithic Britain. But if cereals represented one useful food amongst others, as opposed to a universal staple, cultivation plots may have been treated rather more casually than those in central Europe. This much is suggested by sites such as Hazleton, where a cultivated area had already reverted to scrub before the long mound was in turn constructed over it, or Machrie Moor, where cultivation was evidently a transient episode (Straker 1990: 217; Haggarty 1991). Even so, the implications of the appearance of cereal gardens are considerable, for it indicates the emergence of divided access to land. For even a small area of land to be appropriated by a social group would have demanded the recognition of a new form of property. As Fairbairn (2000: 118) argues, this would have been a potential source of conflict, for it will have jarred with established ways of doing things, including ways of organizing labour. The numbers of people who were engaged in cereal-growing may have been small, and although other members of

the community may have been elsewhere, a core group would have had their mobility curtailed by the demands of weeding and protecting the crop from birds and wild animals (Bradley 2005: 112). It is conceivable that these demands go some way towards explaining the circumstances at Warren Field: a 'caretaker' group tending crops and maintaining the hall year-round, joined at intervals by a more extensive social unit who were ordinarily involved in different subsistence practices.

In any case, we should probably expect considerable diversity, both in regional and chronological terms, in the degree to which people were involved in the cultivation of domesticated plants (Whittle 2000: 3). This point is underlined by the geographical diversity in botanical assemblages identified by Bishop, Church, and Rowley-Conwy (2009: 86). Their paper divides Neolithic sites in Scotland that have produced carbonized plant material into three regions: Atlantic, north-east and southern. But it is clear from their results that the areas with the highest proportions of cereals and the lowest of wild plants are the islands of the north and east, and particularly Orkney, Shetland, and the Outer Hebrides. Sites in these areas have often produced substantial cereal samples, and may lack hazelnut shell altogether. In contrast, some of the mainland sites are entirely dominated by wild plant foods, although the authors emphasize the overall diversity, within as well as between regions. Bishop, Church, and Rowley-Conwy argue that the more extensive evidence for cereal agriculture in the islands can be attributed to their heritage of sparse occupation during the Mesolithic, so that during the Neolithic they had to be virtually be resettled, and an entirely new economic pattern put in place (2009: 87). But an alternative is to point to the much more extensive evidence of sedentary occupation on the islands. Orkney and Shetland in particular possess settlements of stone buildings, which have no parallels on the mainland, and which persisted throughout much of the Neolithic period. It is to be doubted whether this contrast can be attributed to the availability of building materials alone: if timber equivalents of Skara Brae and the Knap of Howar had been the normal form of habitation throughout the mainland Neolithic, more trace of them would have been recovered by now. Indeed, it is revealing that no settlement of cellular Neolithic stone buildings has yet been discovered in Caithness, where geological and other conditions are very similar to those on Orkney. So the possibility is that the offshore islands of Scotland developed a sedentary and more thoroughly agricultural way of life much earlier than the mainland because a mobile, broad-spectrum economy was not viable in an island setting. This might also explain the stronger evidence for Neolithic ploughing in Orkney. Islands typically have limited ecological diversity, and modest variation in altitude and rainfall. This may limit the extent to which different wild foods are accessible in different locations at different times of year, while distinctive areas of seasonal grazing for domesticated herds may not be evident (Terrell 2007: 145). In most cases, it will simply not be practical to drive cattle or sheep to ecologically distinct areas without crossing open water. Under these conditions, island communities may have invested in domesticated plants in a more comprehensive way than their mainland counterparts.

As Stevens and Fuller (2012: 714) point out, the rapid appearance of cereals at the start of the Neolithic seems to have stalled after about 3650 BC, and their use appears to have declined altogether after 3350 BC (see also Brown 2007: 1048).

Their analysis is based upon a summed probability distribution of calibrated radiocarbon dates from samples of domesticated and wild plant foods. As such, it is subject to some of the same problems that affect the work of Collard and colleagues (2010), discussed in Chapter Seven. How far the patterns that they observe relate to changes in human population size, as opposed to archaeological visibility and the intensity of research is open to question. Thus the 'spike' in numbers of dates from both domesticated *and* wild foods shortly after 4000 BC is almost certainly enhanced by the increasing proliferation of contexts that might preserve botanical remains after the start of the Neolithic, and the disciplinary interest in dating materials relating to the earliest Neolithic. However, the more subtle pattern of the ratio of cereals to wild plant remains is important, for it shows an initial enthusiasm for domesticates waning in the mature Early Neolithic and disappearing altogether in the Middle to Late Neolithic. Stevens and Fuller propose a series of strands of explanation. They suggest a period of depopulation following one of agricultural prosperity, and argue that farming may have 'failed' in the face of climatic deterioration (2012: 718). Stevens and Fuller note that cereal-growing was introduced alongside the continued exploitation of wild plants in the primary Neolithic, and argue that Britain's real 'agricultural revolution' did not take place until the Middle Bronze Age (2012: 710). Agreeing with these points, it is not necessary to concur with the catastrophism of their interpretation, which conflicts with the evidence for the construction of major field monuments throughout much of the Neolithic, and thus arguably the maintenance of population (their critical dates of 3650 and 3350 BC coincide precisely with the construction of causewayed enclosures and large cursus monuments in southern Britain). Rather than a failure of agriculture, it is likely that cereals were introduced to Britain alongside domesticated animals and new kinds of artefacts, and that the initial centuries of the Neolithic saw a degree of experimentation, in which wild and domesticated species were used alongside each other, in various combinations. As the Neolithic system 'bedded-in' in the insular context, cereal agriculture may have begun to fall from favour. However, there is little indication that the same was true of livestock, and it is plausible that the first decline of cereals in the thirty-seventh century BC was matched by the emergence of an economy that was increasingly focused on cattle. As well as the construction of causewayed enclosures, this period saw the emergence of long-distance networks for the exchange of exotic goods and materials, suggesting economies that were increasingly organised at the regional level.

DOMESTICATED AND OTHER ANIMALS

Given that the domestication of animals plays such a significant part in established narratives of the Neolithic, it is remarkable that the evidence for either domesticated or wild animals in Britain during the first centuries of the period is so limited. At the time of writing, there are only three fully published faunal assemblages of appreciable size from the British mainland securely dated to between 4050 and 3650 cal. BC: the Coneybury 'Anomaly' and the pre-barrow and constructional phases of the Ascott-under-Wychwood and Hazleton long

cairns. Small collections of material from some earthen long barrows and pit sites probably also fit into the same chronological interval, but the overall sample is not prepossessing. The picture that it presents is a confused one, perhaps representing a formative phase in which the large-scale cattle economies associated with the causewayed enclosures after 3700 BC were only beginning to emerge. As we have already argued, this casts some doubt on Tresset's (2000, 2003) argument that a continental system of animal management was imposed wholesale and unaltered onto Britain. The paucity of the evidence can be attributed in part to taphonomic factors: the sites of the early fourth millennium BC often lack the deep ditches and large postholes that acted as 'traps' for animal bones, while most of the numerous Scottish sites of the period are found on soils that are unfavourable to the preservation of organic remains.

At the beginning of the Neolithic, domesticated animals were introduced to Britain and Ireland from the continent. It is important to recognize that domestication is both a biological and a social process, in which the conditions under which animals reproduce are altered, and new kinds of relationships are established between people and animals (Russell 2002). While this process is often understood as a facet of 'food production', people do not 'make' animals so much as channel the progress of their growth and proliferation (Ingold 1996: 12). Not all animals can be domesticated to the same extent, for domestication builds upon their pre-existing social behaviour. Thus, for example, the propensity of cattle to fall into a pattern of 'linear dominance' when they form large groups facilitates the way that they can be herded by humans (Legge 2010: 27). Animals are not simply objects to be owned and consumed, but act autonomously, even within the constraints of taming and herding. Domestication is therefore not a static condition that species enter into for perpetuity; it is an ongoing process that needs to be continually renewed, or creatures can revert to a feral state (Dransart 2005). Training, care, and social interaction have to be constantly maintained through a dynamic relationship. It is the intimacy and continuousness of person-animal relationships that distinguishes herding from hunting. As we saw in Chapter Six, it is common for hunter-gatherers to understand animals as person-like creatures, who share their animate world with human beings (Ingold 2000: 72). Animals must be treated with respect, so that they will continue to multiply and to offer themselves to humans as food. Yet while this relationship is one of sharing and equity, it is also one of discontinuous encounters between beings who belong to fundamentally separate communities. Domestication involves the introduction of animals into human society, in which they are placed in a subservient position, but are continuously and intimately involved with humans. This change in the relationships between people and animals is often complementary to a change in relations amongst human beings, expressed in the way that they divide animal bodies as food.

For hunter-gatherers, sharing is a universal imperative, both within and between communities (Ingold 1980: 161). Animals only enter into property relationships when they have submitted themselves to the hunter. At the point when the hunter's arrow enters the animal, he or she claims the creature's carcass, but it also enters into a web of obligation and reciprocity. The hunter must share the meat of the animal, often according to elaborate prescriptions based upon kinship and alliance. These rules have the effect that the sharing of food continuously

reinforces social ties, while limiting the accumulation of wealth and influence. But for herders, living animals are already property, in which people maintain shares. The duty to share the slaughtered beast is erased, and the circulation of meat becomes a matter of giving gifts drawn from something that is already owned, in which debts and obligations are *created* rather than honoured. In the process of allocating meat, particularly in the context of a feast, the owners of animals clarify the ordering of their societies. Different cuts and body parts convey meanings and messages concerned with seniority and deference (Århem 1989: 20). For hunter-gatherers the distribution of meat is a means of social levelling and ensuring that all are fed; for herders it is a means of acknowledging and enhancing hierarchy.

If domestication brings animals into human societies, Nerissa Russell (2007: 28) argues that it can be understood as a form of kinship, in which non-humans take on ordered and structured relationships with particular people. Thus pets and herded animals achieve a distinct kind of proximity to humans, and become part of the household—both as personalities and as wealth. As Maurice Bloch points out, one of the features that makes animals (as opposed to plants) more human-like is that they have ancestors and genealogies (1998: 41). This attribute comes into focus when animals are owned and their life-histories become known and, to some extent, controlled. So while hunter-gatherers conceive of wild animals as persons of a sort, herded animals acquire different aspects of personhood. These are enhanced by the intimacy and mutual familiarity that exist between herders and their stock. At a habitual and non-discursive level, animals and their owners fall into patterns of mutual attunement fostered by shared rhythms of life (Armstrong Oma 2010: 180). In the process, humans can come to identify with particular animals, either as companions or as representatives of aspects of their personalities (Evans-Pritchard 1953: 184). Similarly, the ownership of animals can become very important to the identities of human groups, as when the Maasai define themselves as ‘people of cattle’ (Galaty 1982: 14). As ‘sentient property’, animals are rather different from other kinds of possessions that people can have, being subjects as much as objects (Orton 2010: 189). Paradoxically, it can be by extending social relations to non-humans that relationships amongst humans are rendered more durable, for herding societies share a common attachment to their stock.

INTRODUCING DOMESTICATED ANIMALS

The principal species of domesticated stock that began to be kept in Britain at the start of the Neolithic were cattle, pigs, sheep, and goats. Of these, neither sheep nor goats existed in a wild form in north-west Europe, so their introduction from elsewhere has never been in question (Clutton-Brock 2012: 38). Both aurochs and wild boar could theoretically have been independently domesticated in Britain, and while recent genetic studies have made it plain that both pigs and cattle were brought from the continent, the contrasting histories of the two species are revealing. Modern cattle in Europe all appear to be descended from animals that were domesticated somewhere in western Asia, and the founder population was seemingly quite small (Bollongino et al. 2006: 159). There is mitochondrial

DNA evidence which suggests that local aurochs mated with domestic cattle somewhere in central or northern Europe (Achilli et al. 2008: 158). However, this seems to have happened so rarely that there is little doubt that human communities worked very hard to keep cattle and aurochs separate from each other (Edwards et al. 2007: 1383). With pigs, the situation is rather different. Domestic pigs of Near Eastern origin were introduced to south-east Europe at the beginning of the Neolithic, but a number of separate local domestications also seem to have taken place (Larson et al. 2007: 152–77). Following the initial introduction a gradual mixing of Asian and European stock took place, to the point where the animals that were brought to Britain possessed exclusively European haplotypes (Burger and Thomas 2011: 375). Viner (2011: 330) argues that it is unlikely that pigs were independently domesticated in Britain, since the teeth of Neolithic pigs here are very much smaller than those of indigenous wild boar. However, the morphological diversity of pigs suggests that there were regionally varied degrees of inter-breeding between continental stock and wild boar. It appears that the effort expended in segregating wild and domestic cattle was not extended to pigs, indicating that their bloodlines were of lesser significance to Neolithic people.

Pollard (2006a: 138) has noted that cattle, pigs and sheep form a characteristic Neolithic 'set' of domesticates, recurrently found together. There are a number of reasons why the husbandry of a series of different species might be combined. Firstly, this provides a means of guarding against the risks of famine, drought, and epidemics, as different animals may consume different foods, inhabit separate areas of the landscape, and be susceptible to different diseases (Ingold 1980: 177). Secondly, although herding cattle demands considerable labour, flocks of sheep require less attention and can be herded with dogs (Ingold 1980: 178). Remains of dog are relatively common in deposits from the earlier Neolithic (Serjeantson 2011: 31). Sheep and goats would need to be protected from predators, but could not have mated with wild animals. Both pigs and sheep reproduce faster than cattle, and can be 'bred up' to provide meat for specific events (Russell 1998: 43). While cattle are generally more highly valued than small stock, they are large animals and produce a very substantial amount of meat. Sheep or pigs can be slaughtered in order to feed smaller or less important gatherings. Moreover, having access to different kinds of creatures creates the opportunity to rank their meat and milk, so that particular foodstuffs can be reserved for specific age groups or genders, or for highly-ranked persons (Århem 1989: 3). That a community keeps a variety of different kinds of animals does not imply that all are grazed together in the immediate environs of a home base, and it may be that particular social segments are responsible for tending different beasts in different locations.

Domesticated animals were thus probably adopted in Britain as a mutually supporting suite of species. Whether this happened through the exchange of stock between stable communities or the migration of herders from the continent, it would have been important to swiftly build herds up to a level of viability. This might have involved a variety of different ways of acquiring animals, including theft and raiding. As the process of Neolithization progressed slowly from south-east to north-west across the country (see Chapter Seven) this would have promoted social instability, as herding societies sought to increase their stock, and

those without herds tried to obtain them. Under these circumstances the pedigree and genealogy of a particular herd (presumably traced back to a continental origin) would represent an assertion of security and continuity. As Humphrey Case (1969) argued, it is important to hypothesize how both the animals themselves and the skills of stock-keeping might have been transferred from the continent to Britain, and between communities within Britain. One such mechanism can be found in the practicalities of cattle-keeping. Herding cattle is a labour-intensive activity, not least because cows require continual human contact to maintain their docility (Russell 1998: 42). When powerful cattle-owners seek to increase their numbers of animals, the limiting factor is generally the size of their family or clan. The solution is often found in recruiting 'economic assistants' from poorer communities or groups who have no cattle of their own (including hunter-gatherers), usually boys or young men (Ingold 1980: 164). These assistants generally return to their own societies in later life, bringing with them the skills of cattle-rearing, and frequently a number of stock as well. These arrangements are extremely common in cattle-keeping societies (Russell 2012: 322). It is conceivable that the first animal-herders in Britain were not, as Case proposed, migrants setting off into the unknown, but returning 'apprentices' who might have been attached to communities in northern France for a decade or more. Indeed, the first domesticated animals to arrive in Britain might have been brought back by such returners.

The segregation of domestic cattle from aurochs suggested by the European DNA evidence appears to have been maintained once cows were introduced to Britain. The respective tooth sizes of cattle and aurochs were quite different, indicating that there was little or no inter-breeding (Viner 2011: 339). Moreover, the two may have occupied entirely different parts of the landscape. At Ascott-under-Wychwood, cattle bones from the pre-cairn contexts had much the same $\delta^{13}\text{C}$ isotope values as those of aurochs, but at slightly later sites the values were quite different (Hamilton, Hedges, and Robinson 2009: 999). This indicates that while the earliest cattle in Britain may have fed in a largely wooded environment, they were eventually concentrated on grassland, while aurochs remained secluded in woodland or water-rich areas (Lynch, Hamilton, and Hedges 2008: 1032). One reason for enforcing this separation is that domestic cows that had mated with aurochs might potentially have been harmed by the very large calves that they would have carried (Legge 2010: 32). But over and above this, keeping the herd removed from wild cattle would have ensured control over the bloodline, and maintained knowledge of the descent of individual cows. The ability to trace the parentage of cattle is a crucial factor in their role as mobile wealth, since it legitimizes the accumulation of offspring by the owners (Ingold 1980: 224).

THE EARLIEST NEOLITHIC FAUNAL ASSEMBLAGES

Although the few collections of animal bones dating to before 3700 BC all contain domesticates, there is considerable variation in the composition of these assemblages. This variability can be attributed to some extent to the particular circumstances in which the material accumulated, but despite this there is a degree of

contrast with the heavily cattle-dominated assemblages of the mid-fourth millennium BC. In the pre-cairn contexts at Hazleton North long cairn (including the midden), cattle, pigs and sheep are all present, with a slight preponderance of sheep (Levitan 1990: 200). This is perhaps surprising, since while cattle and pigs can live in woodland, sheep require open conditions, and might have been expected to proliferate only once substantial areas of grassland had been created, as a result of the combined impact of pigs and cattle amongst other factors. However, it is possible that appreciably sized clearings already existed on the Cotswolds at the start of the Neolithic. Animals had apparently been butchered on-site at Hazleton, and the burnt articular ends of longbones indicated that joints of meat had been roasted before bones had been smashed to extract the marrow. The cattle at Hazleton had largely been slaughtered at around three years of age, although a few cows had lived into old age. In this respect the cattle contrasted with the small stock, which had all been killed off young (Levitan 1990: 203).

The Hazleton material is rather different to that from the pre-barrow contexts at Ascott-under-Wychwood. At the latter, cattle were the most numerous species and pigs were very common, but there were very few bones of sheep (Mulville and Grigson 2007: 239). However, it is notable that while cattle made up 59 per cent of the animals in the pre-barrow phase, this rose to 83 per cent in the cairn-construction contexts, perhaps reflecting a more general chronological shift towards the dominance of cattle. None the less, it is significant that the cattle bones from the constructional deposits were dominated by skulls and jaws, a pattern which is found at other Cotswold-Severn long cairns, and which may reflect the symbolic rather than the economic significance of cows (Thomas and McFadyen 2010: 110). At the final site, the Coneybury Anomaly, cattle were again numerous, but they were represented almost exclusively by bones of the head, neck, and extremities (Maltby 1990: 57). These cattle were young, mostly aged less than 26 months, and seem to have been butchered on-site for consumption elsewhere (see Chapter Seven). The ten cows were accompanied by two red deer that had been treated in a similar fashion, and six roe deer that had been consumed on site. The slaughter of so many animals in a single episode, combined with the evidence that the roe deer were eaten near to the pit, suggests a curious combination of feasting and the preparation of meat for another event. What this surely indicates is that different species were being treated in distinct ways, and it may be that beef and red deer meat were more highly valued than the flesh of the roe deer, and were to be consumed in a more auspicious place or by more important people. The complete absence of sheep is puzzling, given that parts of Salisbury Plain may have been comparatively open by the start of the Neolithic (Allen and Gardiner 2009: 57). It is tempting to conjecture that the lack of sheep and preponderance of deer at Coneybury reflects its transitional status between Mesolithic and Neolithic economies, but it is far more likely that the deposit was the product of an unusual and atypical event.

The cattle at Coneybury would have been too young to have reproduced, and are therefore unlikely to reflect the structure of their parent herd as a whole. This makes an interesting comparison with that reported by Legge at the causewayed enclosure of Hambledon Hill in Dorset (2008: 554). Here again the excavated sample represented a subset of a larger population that must have been located elsewhere. At Windmill Hill and Etton, more of the cattle were older cows,

perhaps beyond milking age (Armour-Chelu 1998: 283; Grigson 1999: 220). This age profile, the preponderance of females, and the large numbers of cattle bones found at causewayed enclosures, suggests an economic arrangement in which extensive herds were kept for dairying as well as meat by the middle of the fourth millennium BC (Serjeantson 2011: 25). The limited evidence hints that this pattern may not have been fully formed at the beginning of the Neolithic, although it is not difficult to identify the forces that would soon have encouraged an increased emphasis on cattle. In many societies, bovids become particularly closely associated with the human community. Cows have small numbers of offspring and live for a relatively long time, so that their population structure is comparable with that of humans (Orton 2010: 194). This similarity promotes an inter-linking of the kinship networks of persons and cattle, so that the two come to represent a joint community. Very often the foundation of the herd is attributed to a human ancestor, and cattle are considered to be the property of the ancestors as much as the living (Evans-Pritchard 1953: 188). As a result, the herd can come to constitute inalienable property, connected with the social group as a whole rather than particular people. While individual cattle can be exchanged, gifted, or slaughtered, the herd as a collective entity must be maintained (Crandall 1998: 105). The effect of this is to bolster the stability of the human community, whose continuity becomes to some extent vested in that of the herd. In this way, herding societies can be compared with the 'house societies' discussed in Chapter Nine. In both cases the durability of the social unit is enhanced by attachment to an external entity: the house or the herd. In the case of Neolithic Britain, these two innovations appeared at the same time, suggesting societies that were rapidly becoming more bounded, more stable, and more internally structured.

THE SOCIAL CENTRALITY OF CATTLE

We have suggested that cattle were introduced to Britain as one domesticated species amongst others, but that over a period of three centuries or so they achieved a position of greater primacy. This increasing importance may be linked to a growing role for cattle as wealth, a repository of value rather than merely as a source of food (Russell 2012: 298). While they were the property of human groups, to be exchanged, slaughtered, and consumed, the intimate association of cattle with people in the Early Neolithic hints that the relationship may have been conceived as a more balanced one. The tending, nurturing, protection, and watering that cattle received may have been understood as a form of reciprocity for control over and consumption of the animals' bodies (Ray and Thomas 2003: 42). The close connection between people and cows was physically manifested in mortuary practice from the earliest stages of the Neolithic. At Handley Hill in Dorset, for instance, a disarticulated human burial was found in a pit with a deliberate arrangement of cattle bones, and an upright post as a marker. A large, thin-walled, open pottery bowl from the same pit had a finely rippled surface, identifying it as being of Carinated Bowl affinity (Cleal 1991: 134) (see Chapter Eleven). Cattle bones were also deposited in significant locations within earthen long mounds, most notably amongst the barrows of Salisbury Plain. Skulls

and horns were selected for inclusion, and bovid remains were often treated in a similar way to humans, with a degree of 'reverence' (Field 2006: 6). In some cases, as at Boles' Barrow and Knook Barrow, these bones appear to have been curated for some period before deposition, and were not simply a by-product of butchery and consumption in the vicinity of the mound. Moreover, cattle appear to have represented 'substitutes' for human burials beneath some barrows, as at Amesbury 42, Beckhampton Road, and the mass of cattle skulls at the east end of Boles' Barrow (Thurnham 1869: 180; Ashbee, Smith, and Evans 1979: 245; Field 2006: 8). Cattle and auroch remains also dominate the assemblages from the flanking ditches of many long mounds (Grigson 1999: 236).

The special treatment afforded to cattle remains, their differentiation from other animals, and their close association with human bones, were still in practice when the causewayed enclosures were constructed. At both Hambledon Hill and Windmill Hill, bovid remains were prevalent in the placed deposits found in the enclosure ditches, while at the latter site there were examples of human bones 'nested' within those of cattle (Grigson 1999: 206). At Etton, the treatment of sheep and pigs was entirely different from that of cattle. While the former were often deposited as 'partial skeletons', cattle were placed in the ditch in groups of meat-bearing bones (Armour-Chelu 1998: 285). Several of the bones recovered from the ditch at Etton had been scored with marks, which appeared not to have been related to the process of defleshing. It is suggested that these bones may have been used as tally-sticks, but the salient point is that they appear to have been in circulation for some time before they were deposited. Similarly, towards the end of the interrupted-ditch enclosure tradition two cattle jaws, an ox skull, and a red deer tibia appear to have been some centuries old before they were placed in the primary ditch at Stonehenge I (Cleal, Walker, and Montague 1995: 529–31). One reason why the remains of cattle may have been conserved for long periods is that, like human bones, they constituted tangible evidence of ancestry and descent. Cattle herds were not simply a material resource, but a repository of collective history, since the composition of the stock was the outcome of a series of alliances, marriages, funerals, gifts, feasts, and raids (Ray and Thomas 2003: 41). The bones of the animals were the material trace of that history, and so were the living animals themselves, whose colour, build, hair, and horn shape revealed their particular origin (Schulting 2008: 99).

The display of cattle at meetings and ceremonies would have provided an opportunity to validate the shared history of the community and its herd, while also generating prestige. Cattle represent a store of social capital, a potential that can be expended in a number of different ways, and this can make them a powerful tool of social strategy. They can be slaughtered and eaten in a feast, which can be a means of generating followers, obligations, and indebtedness. They can produce milk, which can be converted into other foodstuffs such as cheese and yoghurt. They can be given as bridewealth, used to pay off crimes and offences (including bloodprice, paid to compensate for a homicide), or loaned out to poor families, establishing clientage relations and spreading risk (Ingold 1980: 164; Russell 1998: 45). The use of cows in these transactions that mark important junctures in human lives binds the herd even more closely into kinship structures (Hakansson 1994: 258). They also can be exchanged for other things, but if they are simply kept and husbanded, they will increase in number, adding to the wealth

of the owners (Hakansson 1994: 258). Importantly, not all cows need have the same symbolic value, since the transactions that they have been involved in and the social segments that they are associated with will contribute to their worth (Crandall 1998: 102). To a greater extent than other livestock, cattle will tend to be progressively accumulated by groups seeking to achieve social advantage, and this may have been the dynamic that was at work in lowland Britain during the first half of the fourth millennium BC.

SLAUGHTER, CONSUMPTION, AND MILKING

As we have already noted, cattle are large animals, whose slaughter provides some 300 kilogrammes of meat, fat, and offal (Legge 2008: 543). Amongst most herding societies the consumption of this quantity of animal protein is not an everyday event, especially given that it requires a relatively large number of people to be gathered together. Since the killing of a cow involves the relinquishment of the many possibilities that the animal embodies and the using up of a singularly valuable good, it very often takes the form of a sacrifice (Evans-Pritchard 1953: 190). Rather than simply serving to satisfy hunger, such a slaughter is occasioned by some specific event: a birth, a marriage, a funeral, the meeting of two social groups. Equally, the sacrifice of a large animal is often a means of interceding with spirits, deities, or ancestors (Ray and Thomas 2003: 41). None of this makes the consumption of beef any less of a contribution to the nutrition of a community, but it may have the effect of regulating and pacing the rate at which this consumption proceeds. Moreover, sacrificial animals are often understood to represent the social body, so that their collective consumption can serve as a means of reaffirming community ties (Århem 1989: 19). There are indications that all of this applied to Early Neolithic Britain. As Serjeantson argues:

Large animals must have been killed and eaten only on special occasions when extended family groups or larger communities came together. (2006: 114)

Serjeantson goes on to point out that the possibilities for the preservation of meat would have been limited, since salt only began to be produced in large quantities during the Middle Bronze Age, while smoking is unreliable in a damp climate (2006: 114). At the mid-fourth millennium BC site of Runnymede joints of meat had initially been roasted over open fires, and bones had subsequently been chopped to remove the marrow. But it seems that some of the carcasses had been further exploited, and boiled for soups or stews. Some of the larger pottery vessels at Ascott-under-Wychwood had apparently been used for this purpose (Serjeantson 2006: 130). It is likely that this was a more widespread pattern: cattle were slaughtered with some ceremony and roast meat served at a feast, but the remaining bones were picked over and boiled up for meals over the following days. There would then have been a period without meat, or relying on small stock, before the next opportunity to eat beef occurred. It is probable that Neolithic diets in Britain were also supplemented by milk products. It has been supposed for some while that the large herds of the causewayed enclosure period were kept for dairying, as they were dominated by females (Legge 1981: 179), but

it seems that cows were already being milked in Europe by the time that Neolithic activity began in Britain (Clutton-Brock 2012: 42). At the Chasséen site of Bercy, for instance, calves were weaned early, so as to reserve more of their mother's milk for human consumption (Balasse and Tresset 2002: 858). It has been argued that Neolithic cattle were not able to release milk in the absence of their calves, and that these would have been slaughtered post-lactation (Vigne and Helmer 2007: 29). However, Amoroso and Jewell (1963: 132) demonstrated long ago that the restricted milk-ejection reflex of primitive cattle can be overcome by various forms of stimulation.

One problem that might have beset early attempts to incorporate milk into human diets is that of lactose tolerance (see Chapter Four). The LBK communities who first brought domesticated into central Europe did not have the lactase-persistence allele, and may not have been able to consume unprocessed milk (Brüssow 2009: 2781; Oelze et al. 2011: 277). This is not to say that these people did not milk their animals, for in dairy products such as yoghurt, butter, and cheese the lactose in milk is largely converted into fatty acids (Burger and Thomas 2011: 381). By contrast, the modern populations of northern Europe have the highest levels of lactose tolerance in the world (Beja-Perreira et al. 2003: 312). This pattern presumably emerged in Europe, but it is not clear whether this happened amongst migrant agriculturalists, or acculturated indigenous populations (Burger and Thomas 2011: 381). Important new evidence on dairying has come from lipid residues on potsherds, which demonstrate that in the British Early Neolithic 50–60 per cent of vessels had contained dairy fats (Copley et al. 2005: 528). Most significantly, a series of Carinated Bowl vessels from Eton Rowing Lake had residues of dairy fats, demonstrating that animals were being milked from the earliest stages of the British Neolithic (Copley et al. 2005: 532). This has a series of implications. Firstly, it means that communities with cattle and sheep would have been able to provide themselves with protein for much of the year without having to resort to the constant slaughter of their animals. But secondly, it also means that the amount of labour that would have needed to be invested into animal herds would have been very considerable. For as well as tending, herding and protecting the animals, they would have needed to be milked, and this labour would have been concentrated at particular times of day, requiring that an appreciable number of people would have had to reside alongside the animals (Ingold 1980: 182). If large herds of cattle were starting to be amassed, and these needed to be moved between seasonal pastures, this would have required that some of the population were themselves semi-mobile. This fits with the evidence discussed earlier in this chapter that cattle were brought to causewayed enclosures from herds located elsewhere. By the later Neolithic, the potential extent of cattle mobility is demonstrated by strontium isotope studies on the tooth enamel of cattle teeth from Durrington Walls in Wiltshire, which show that animals had travelled tens or hundreds of miles during their lifetimes (Viner et al. 2010: 2817).

SHEEP, PIGS, AND WILD SPECIES

Aside from demanding relatively open conditions for grazing, Neolithic sheep were not woolly (Sherratt 1981: 282), although the short down beneath their hair

could have been used for fibre. Sheep were almost certainly milked, and this may explain why at Windmill Hill and Etton they were not slaughtered as young as pigs were (Armour-Chelu 1998: 283; Grigson 1999: 224). Pigs, which provide no secondary products, were kept exclusively for meat. As pigs have a high reproductive rate, they could be killed young, often before adulthood (Rowley-Conwy and Dobney 2010: 135; Viner 2011: 324). This much is confirmed by the assemblages from the causewayed enclosures of Hambledon Hill and Windmill Hill (Grigson 1999: 222; Legge 2008: 549), and much the same appears to have been the case in the primary stages of the Neolithic. Both in the Mesolithic and the Neolithic, British pigs were very diminutive, much smaller than the familiar animals of post-18th century times (Legge 2008: 569; Albarella 2010: 60). Thus the contrast in size with cattle would have been a profound one, and pigs in particular could have been slaughtered to provide lesser quantities of meat in the intervals between cattle feasts.

The pigs of Neolithic Britain were more heterogeneous than the cattle, owing to multiple episodes of inter-breeding with wild boar (Viner 2011: 345). This closer relationship with their wild equivalent was connected with very different patterns of habitat and mobility. In contrast with cattle, pigs are very difficult to herd, so that the notion of a nomadic pastoralist system based on pigs is impracticable (Grigson 1999: 230). However, pigs will generally reside in a fixed territory, and can be encouraged to gather at particular times to receive food. Dietary studies have demonstrated that Neolithic pigs in Britain consumed a wide variety of food, but the high $\delta^{13}\text{C}$ values in their bones demonstrate that they probably ate large quantities of fungi, which would have been found in wildwood (Hamilton, Hedges, and Robinson 2009: 1002). This suggests that pigs were not kept in the same parts of the landscape as cattle, and it is probable that the management of the two species was carried out separately. Indeed, as Neolithic pigs do not appear to have eaten human faeces and food waste, they may have been tended and protected by a small number of people, relatively remotely from the rest of the human population. Since they provided no milk, there was no need for pigs to be kept close to human habitations, and they might only have been brought in from the woods for slaughter (Viner 2011: 321).

While wild plants are strongly represented in Early Neolithic botanical assemblages, wild animals are often conspicuous by their absence (Serjeantson 2011: 40). Aurochs and wild boar occur sporadically alongside their domesticated forms, and cat, wolf, and bear are all represented in very small numbers. This is surprising, since these species would have teemed in the woodland surrounding the earliest Neolithic communities (Pollard 2006a: 136). It is possible that the hunting of woodland animals became a peripheral concern once domesticates were in use, or that hunting was actively rejected as a feature of a redundant and inferior way of life. Alternatively, the hunting and consumption of wild animals may have been conducted in isolation from even temporary habitations. These issues are especially pertinent when we consider the role of red deer and roe deer in the Early Neolithic. Red deer were particularly important throughout the Neolithic, for their antlers were used as picks for digging pits, ditches, postholes, and flint mines. These were more often acquired after seasonal shedding than from slain animals, so encounters with the deer themselves need not have been frequent (Serjeantson 2011: 41). However, it is notable that antler picks were often

abandoned after use, left in the mine shafts at Church Hill and Cissbury (Russell 2001: 235) and on the bottom of the quarries flanking the long cairn at Hazleton North (Saville 1990: 206). This practice was maintained into the Late Neolithic, when a cluster of fifty-seven antler picks was left on the base of a ditch terminal of the henge at Durrington Walls (Wainwright and Longworth 1971: 187). That these tools were not retained for further use may simply be a reflection of the importance of the contexts in which they had been employed (see Chapter Twelve). But it might also be a consequence of a cultural ambivalence regarding deer, an animal that had not been incorporated into human society. Niall Sharples (2000: 112) points to several examples of deer having been butchered and consumed, or simply slaughtered and left to rot, in contexts separate from the settlements of Neolithic Orkney. Similarly, Ffion Reynolds (2012: 179) suggests that the particularity of the Coneybury Anomaly might have been related to the presence of both roe and red deer. If the consumption of animals that had been hunted rather than herded had been an activity that to be kept separate from domestic dwelling, their importance might have been underestimated to some extent.

STABLE ISOTOPES AND DIET

One of the enduring problems of economic archaeology has been that while it has been possible to gain useful information about human relationships with animals and plants (through faunal analysis and carbonized plant remains respectively), assessing their comparative importance has proved all but impossible. One answer was found in Site Catchment Analysis, which sought to characterize the economic potential of the landscape immediately surrounding a settlement or other site (Higgs and Vita-Finzi 1972: 27). However, this approach involved a series of assumptions about the rationality of prehistoric economies and the inherent suitability of particular soil and sediment types for specific forms of exploitation.

An alternative has recently emerged in the analysis of stable isotopes from human bone collagen. These provide a broad indication of the composition of human diet over a period of some years before death, since carbon and nitrogen in the food consumed by vertebrates help to build bone tissue, which is continually being renewed. The process of bone 'turnover' takes somewhere between five and fifteen years to complete, and the ratios between stable isotopes of carbon and nitrogen give an impression of the kinds of foods predominantly consumed over this period. Thus $\delta^{13}\text{C}$ is the ratio between carbon-12 and carbon-13, and different kinds of foods give different $\delta^{13}\text{C}$ values. The principal distinction that can be drawn in temperate Europe is between humans who have eaten predominantly terrestrial or marine diets. In the cool and moist conditions of northern Europe, most plants follow the C_3 photosynthetic pathway (as opposed to the C_4 pathway or the crassulacean acid metabolism). These plants, the animals that feed off them, and carnivores that consume those herbivores have a $\delta^{13}\text{C}$ signature of about -20‰ (Richards, Schulting, and Hedges 2003: 366). By contrast, an exclusively marine diet will produce a figure of around -12‰ . In the context of European prehistory this information was first put to use by Henrik Tauber,

who analyzed human skeletons of Mesolithic and Neolithic date in Denmark. Tauber noted an abrupt change in $\delta^{13}\text{C}$ values in the period between 4000 and 3800 BC, suggesting a sudden abandonment of marine resources and the adoption of an entirely terrestrial diet at the Mesolithic-Neolithic transition (Richards, Price, and Koch 2003: 289).

Stable isotopes of nitrogen in bone, by contrast, provide information about the trophic level of organisms in relation to their environment. $\delta^{15}\text{N}$ is the ratio between nitrogen-14 and nitrogen-15, and increases by about $3\text{--}5\text{‰}$ for each step in the food chain. Thus plants will generally have a $\delta^{15}\text{N}$ of between 2 and 4, animals that consume plants will have a value of around 6, and carnivores will have a value of about 9 (Schulting and Richards 2002a: 154). If a human being ate only plants, their $\delta^{15}\text{N}$ would be similar to that of herbivores, while if they ate only meat, it would be $3\text{--}5\text{‰}$ higher than this. However, $\delta^{15}\text{N}$ can vary appreciably from region to region, and for that reason it is usual to analyse the bones of various animals, and particularly herbivores, as a basis for comparison. One complicating factor is that the consumption of freshwater fish can raise the value of $\delta^{15}\text{N}$ without having much impact on $\delta^{13}\text{C}$.

In Britain, most attention has been attracted by the results of $\delta^{13}\text{C}$ analysis, as this appears to replicate the Danish pattern, with a marine-based diet (in coastal areas) being entirely replaced by a terrestrial diet at the start of the Neolithic. This has been interpreted as evidence for a rapid and wholesale adoption of domesticated plants and animals (Richards, Schulting, and Hedges 2003: 366). Richards and Hedges (1999: 895) state that no human skeleton dating to later than 4300 cal. BC, whether from a coastal or an inland context, has produced any evidence for having an appreciable marine component to their diet. However, the results are compromised to some extent by the limitations of the sample. There are very few skeletons from the Late Mesolithic, although samples from Cnoc Coig on Oronsay and Ferriter's Cove in Ireland do date to late in the fifth millennium BC, and seem to have had diets dominated by marine protein (Schulting and Richards 2002a: 159). Furthermore, few of the numerous Neolithic skeletons that have been analysed date to before 3800 BC, so there is potentially something of a chronological gap between the marine and terrestrial diets. This problem is enhanced by the more precise calendar that has been provided by Bayesian analysis. As it now appears that the beginning of the Neolithic on the British mainland was not synchronous but stretched out over a period of four centuries (Whittle, Healy, and Bayliss 2011: 868), it would be helpful to have regionally specific results that revealed whether the dietary transition was abrupt or gradual in particular areas. Thus the Late Mesolithic skeletons signalling marine diets from Cnoc Coig and Caisteal nan Gilleann II are relatively late in date, but still fall some while before the start of the Neolithic in Scotland. Conversely, the bones registering terrestrial diets from Little Hoyle Cave, Priory Farm Cave, and Spurge Hole Cave on Caldey Island in South Wales probably fall close to the beginning of the local Neolithic, presumably in the thirty-eighth century BC (Schulting and Richards 2002: 1023).

One potential problem with stable carbon isotope analysis is that while the results suggest a total abandonment of marine resources, there is clear evidence that food was still being acquired from the sea in some regions. For instance, there are large oyster middens of Neolithic date in the Forth Estuary (Milner et al. 2004: 12). It is possible that these were only used by a small proportion of the Neolithic

population who continued to practice traditional foodways, or that fish and shellfish were only consumed seasonally, or in small quantities (Hedges 2004: 35). Another possibility is that Neolithic people may have been eating a low-protein, cereal-based diet, which would reduce the sensitivity of bone collagen to a marine contribution of less than 30 per cent (Hedges 2004: 37; Richards and Schulting 2006: 452). However, this is contradicted by evidence for meat-rich diets, so doubts about the sensitivity of the method remain even if the broad pattern that it suggests is widely accepted. A further issue lies in the interpretation that has been placed on the results. Richards and Hedges (1999: 891) refer to a 'Neolithic revolution', and imply that the results indicate the universal rejection of all wild foods in favour of domesticates. However, while carbon isotopes distinguish between marine and terrestrial foods, they cannot discriminate between wild and domesticated resources, and this means that the pattern can be read in a variety of different ways. Schulting argues that:

It is difficult to conceive of a situation in which coastal resources would be abandoned in favour of wild terrestrial resources, just at the time when domestic plants and animals, together with substantial changes in material culture, make their first appearance. (2011: 27)

But this is a 'straw man' argument. The question is not one of whether people began to subsist entirely on wild terrestrial resources at the beginning of the Neolithic, but of whether domesticates were *added to* wild foods, in the process reducing the dependence on marine foods, or replaced them entirely (Thomas 1999: 25). The question of how and why diet changed at the start of the Neolithic is taken up by Richards (2003: 34), who contrasts two different instances in which food plants were introduced to new regions. In the case of the Danish migration to Greenland, small-scale agricultural colonization did not result in the adoption of domesticates by the indigenous population, but the eventual assimilation of the Danes to the native marine-based economy. Conversely, in North America the spread of maize horticulture did transform local subsistence practices, but it did so only over a period of hundreds of years. Richards draws two important conclusions from these parallels: a small relocation of population is unlikely in itself to have resulted in an abrupt and widespread transformation of foodways, while domesticated animals may have been a more significant force for change than cereals. He also speculates that the coherence and attractiveness of the 'Neolithic package' may have been enhanced by its embedding in a region or cult of some kind (M. P. Richards 2003: 34).

Richards' suggestions go some way to helping us explain the swiftness of change at the start of the transition, but do not entirely cover the declining importance of marine resources. Arguably, one could propose that the rejection of fish, seals, and marine molluscs might have been part of an identity process in which food from the sea became taboo, associated with 'old ways' that had been cast aside. Such a process might be only indirectly related to changes in subsistence economy (Thomas 2003: 69). More realistically, it is easy to see how the introduction of domesticated animals, and particularly cattle, into an indigenous society might have quickly changed economic priorities without resulting in the complete neglect of wild resources. We have seen already that the keeping of livestock introduces a substantial demand for labour, and that this is still more the case

when animals are milked and dairy products become an important part of the diet. For hunting and gathering people who valued meat highly, docile animals that also produced milk that could be consumed between feasts would have been highly attractive. But the investment of effort in tending and milking these animals might have restricted the extent to which even coastal communities had the time or inclination to continue gathering marine foods. The two might have been to some degree incompatible, but this does not provide any reason why wild plants should not have continued to be exploited.

These arguments seem to be supported by the results from stable nitrogen isotopes. At numerous Early Neolithic sites of different kinds, $\delta^{15}\text{N}$ values indicate a diet that was dominated by animal protein. In the west of Scotland, for instance, $\delta^{15}\text{N}$ figures of 8.9–10 from Carding Mill Bay and 9–9.5 from Crarae led Schulting and Richards to argue that 'it is unlikely that cereals or other plants contributed much of the protein component of the diet' (2002a: 157). Richards (2000: 132) notes that there may be some difference in diet between individual chambered tombs, but that the $\delta^{15}\text{N}$ values in particular of tomb populations tend to be very homogeneous, suggesting that communities were sharing much the same diet throughout their lives. Some of the tombs studied by Richards, such as Parc le Breos Cwm, appear to have been characterized by very high animal protein diets. Much the same was observed at Hazleton long cairn, where the average $\delta^{15}\text{N}$ of human bones was 4.2‰ higher than that of cattle, which may indicate that the humans were acquiring 75 per cent of their protein from meat and dairy products (Hedges, Saville, and O'Connell 2008: 122). Similar, and even higher differentials between the $\delta^{15}\text{N}$ values of humans and cattle are reported from Ascott-under-Wychwood long cairn and the causewayed enclosures of Chalk Hill, Etton, Windmill Hill (Hamilton and Hedges 2011: 680). At some of these sites it appears that as much as 95 per cent of the protein consumed was from animal sources. The causewayed enclosure at Hambledon Hill in Dorset provided further important results, for here the diets represented by stable isotope analysis appeared to be quite diverse, although most involved high proportions of animal protein. While the homogeneity of the diets of tomb groups indicates that the dead were drawn from single communities, Hambledon may have been a centre that was visited by a number of different social groups (Richards 2008: 524).

Hedges, Saville, and O'Connell (2008: 122) suggest that the amount of animal protein being eaten by some Early Neolithic communities may have been appreciably larger than by modern Britons. One objection to this argument is that human $\delta^{15}\text{N}$ may have been enhanced by the intensive manuring of crops (Hedges and Reynard 2007: 1248; Fraser et al. 2011). On this argument, British Neolithic people might have had a cereal-based diet augmented by only modest amounts of meat. However, amongst the LBK communities of the central European loess, $\delta^{15}\text{N}$ values are much lower than those for the British Neolithic (Oelze et al. 2011: 277). Here, the evidence for manuring is actually stronger than in Britain, where animal dung appears to be absent from middens, while environmental factors would be expected to *reduce* $\delta^{15}\text{N}$ values in Britain (Bogaard 2012: 40). This contrast need not be entirely attributed to very high meat-consumption amongst the Neolithic British. As we have seen, many LBK people appear to have been lactose intolerant, so their diet may have been based on cereals, pulses, and

meat from livestock (Oelze et al. 2011: 277). In Britain, Early Neolithic diets are more likely to have combined dairy products, meat, cereals and wild plant foods.

The isotopic evidence for a Neolithic diet that contained a high proportion of animal protein seems to be corroborated by analysis of human dentition. The rates of dental caries during the British Neolithic were very little higher than those during the Mesolithic, suggesting that only modest quantities of cereal were consumed (Chamberlain and Witken 2003: 54; McKinley 2008). Analysis of teeth from a series of chambered tombs in South Wales, for example, revealed only limited evidence for caries (Wysocki and Whittle 2000: 593). The debate on the relative contribution of cereals and wild plants to the Neolithic diet, discussed earlier in this chapter, is put into perspective by these results. While diets in south-east Europe were based upon cereals and pulses, and those in central Europe added larger quantities of meat, in Britain the balance shifted towards animal protein, through the addition of dairy products. Cereals and wild plants were both consumed during the primary Neolithic, but neither were as important as the combination of meat, milk, butter, and cheese. It is for this reason that Neolithic cultivation in Britain was more informal and small-scale than in other parts of the continent.

CONCLUSION

As we saw in Chapter Four, one model of Neolithic economic systems is based upon the interdependence of small stock and the intensive cultivation of garden plots (Bogaard 2005: 178; G. Jones 2005: 164; Isaakidou 2011: 97). While this may accurately characterize the early agrarian societies in the Balkans and (to a lesser extent) central Europe, we have argued that a quite different pattern developed in Atlantic Europe, where the Neolithic was spread less by population movement and more by the adoption of novel species and material culture by indigenous groups. In these regions the immediate attraction of domesticates lay only partly in the optimal production of food, and more in the ability to generate a form of mobile wealth that could be disposed of in a variety of profitable ways. We should remember that even where technology and ecology are identical, different societies engage with animals and plants in entirely different ways because their everyday activities are nested within distinctive sets of social relationships (Ingold 1980: 94). We should not necessarily assume a uniform model of economic organization throughout Neolithic Europe, particularly if different social imperatives were at work in different regions. The garden cultivation model emphasizes the economic and social autonomy of small household units (Bogaard 2005: 189), so that each house or farmstead was equipped with its own arable plot, sheep, pigs, and cattle. Here the domestic animals are subordinated to the demands of horticulture. By contrast, the centre of gravity of the Early Neolithic economy of Britain lay with livestock, and increasingly with cattle. The large herds that are implied by the scale of meat consumption at the causewayed enclosures suggest a different order of magnitude from the one or two cows attached to a farmstead. At the onset of the Neolithic domesticated creatures were substituted into an economy that was already animal-focused (Richards

2003: 35). If to begin with sheep, pigs, and goats were experimented with alongside cereals and wild plants, over a period of two or three centuries cattle took on an increasingly central position both in diet and in political economy. One biological factor may conceivably have aided in this process: the acquisition of lactose tolerance by people in north-west Europe enabled them to maximize the potential of cattle as a source of food in a way that LBK groups in central Europe could not have done. The accumulation of substantial herds provided not only meat, dairy products, dung for fuel, and hides for rope and leather, but also political advantage. Apparently, an initial attraction of cereal cultivation waned as the centrality of cattle increased. The formation of more bounded social groups accumulating discrete herds of cattle suggests an increasingly competitive social milieu. While this competition may have expressed itself in feasting, gift-giving, strategic marriages, and the struggle for prestige, there is also strong evidence for inter-personal violence in the Early Neolithic (Schulting and Wysocki 2005: 131). It is plausible that this was linked to the emergence of endemic raiding, acquiring livestock and labour by foul means as well as fair.

This is not to say that the societies of Early Neolithic Britain were nomadic pastoralists in the East African mould, surviving exclusively on animal products. A range of different resources were clearly being utilized, including perhaps the occasional hunting of wild ungulates. But it seems unlikely that the whole range of subsistence tasks was contained in microcosm within small family farmsteads. Instead, it is probable that larger social groups existed, with complex divisions of labour. Rather than all activities being conducted and coordinated in the immediate environs of a home base, it is probable that the keeping of cattle, the care of pigs, the herding of sheep with dogs, the cultivation of cereals, and the gathering of wild plants were undertaken by different social segments, although some of these tasks might have been combined, or mixed with other activities, such as the acquisition of fuel or raw materials. Each of these practices would have had its own temporality, and would have involved different patterns of daily and seasonal movement, which would have intersected at particular times during the month or the yearly round, as when sheep were grazed on cultivation plots. In the primary Neolithic, the large timber halls might have represented the points at which many of these intersections took place, inhabited by different numbers of people at different times in the year. It may be that these complex arrangements introduced scheduling incompatibilities that quickly rendered the use of marine resources impracticable. This returns us to the issue (discussed in Chapter Seven) of whether the Neolithic transition in Britain should be considered 'fast' or 'gradual', and perhaps renders the question a semantic one. It seems that the adoption of domesticates and the abandonment of marine food-sources were relatively swift within particular regions, even if the process was played out over some centuries as it progressed across Britain. But on the other hand, the economic pattern that had developed by the middle of the fourth millennium BC was one that mixed domesticated animals with varying combinations of wild and cultivated plants. The emergence of a way of life based upon sedentary cereal agriculture would not take place until the second millennium BC. The Neolithic can be defined in a number of different ways, but if we wished to focus on the existence of horticultural village life, we would be compelled to imagine a very long transition indeed.

Conclusion: A Narrative for the Mesolithic-Neolithic Transition in Britain

TRAJECTORIES IN THE EUROPEAN NEOLITHIC

Although it has been useful to address the beginning of the Neolithic in Britain through a series of themes, one potential disadvantage of this approach is that the argument can become fragmented, and any sense of temporal development slips away. In this final chapter, some of the main points of discussion will be reiterated, with the intention of revealing connections between issues that have been treated separately. This necessarily needs to begin by returning to the European context, and identifying the principal social and economic processes that impinged on British communities at the end of the fifth millennium BC. The argument proposed in this book is emphatically not an 'indigenist' one, for it is not suggested that the hunting and gathering peoples of Britain would have domesticated plants and animals, developed the skills of potting, started to make leaf-shaped projectile points, or begun to build long barrows, chambered cairns, and ditched enclosures independently and without contact with Neolithic groups in Atlantic Europe. The British Neolithic was the outcome of the encounter between two quite different social traditions: the insular Mesolithic and the continental Neolithic. Both of these were dynamic entities, carried forward by the practical activities of human beings. In the first part of this book the diversity of European 'Neolithization' was explored, but a series of long-term and large-scale regularities were also recognized. Chief amongst these was the recognition that the Neolithic transition in Europe was principally a social process. This involved the emergence of heterogeneous communities composed of persons, animals and artefacts, which served as vehicles for the accumulation and transmission of wealth. Since the very strengths that had made hunter-gatherer societies successful in Europe over thousands of years (extensive social networks, sharing, levelling mechanisms) effectively precluded cultivation and herding, a fundamental social change was the precondition of the adoption of domesticates. This new kind of social formation made agriculture possible, but did not dictate the form that it took, and across the continent there was great variation in the character of Neolithic economic practice. While many large-scale accounts of the introduction of agriculture into Europe presume that the Neolithic was relatively invariant over time and space, it is arguable that the innovations that people in Britain first experienced at the end of the fifth millennium BC were the outcome of a long sequence of accretional change and structural transformation, generated in a series of different contexts. It

is important to uncouple the question of how far the Neolithic spread as a 'package' of functionally or structurally interrelated traits from the belief that it was fixed and timeless. It is entirely possible that the Neolithic was more or less integrated and 'package-like' in different chronological and geographical settings.

As we saw in Chapter Two, the Neolithic way of life that was introduced into south-east Europe from western Asia was a tightly integrated system based on subsistence horticulture, which was predominantly (if not exclusively) dispersed by population movement. The cultivation of cereals and pulses was conducted within a set of social relationships based on a quasi-autonomous household, so that all of the simple technology and labour required were contained within the extended family. Domesticated animals had a subsidiary role within this framework, providing manure, grazing on the stubble fields, and being consumed for meat. Such a system has a tendency towards underproduction, and this was mitigated to some extent by the need for relationships outside of the household. These provided access to marriage partners, seasonal assistance, mutual protection, and insurance against crop failure. The agricultural villages and tell settlements of south-east Europe can be seen as a compromise between the centrifugal tendencies of domestic production and the contradictory need for conviviality and collective support. The additional pressures of living in densely-packed settlements with intensive face-to-face interaction were ones that may have been held in check by prescriptive norms of social conduct, reflected in strict adherence to cultural tradition, and material forms such as anthropomorphic figurines.

Such a way of life may not have had much to recommend it to the indigenous hunters and gatherers who encountered it. One of the strands that we traced through the European Neolithic was the gradual shift from a subsistence economy to a wealth economy, and from a form of agriculture that was focused on cultivation to one that was increasingly preoccupied with livestock. The themes of accumulation and competition were nascent within the south-east European Neolithic, but they remained submerged until rather different forms of agricultural settlement developed in the north Balkans. With the emergence of the LBK, we can perhaps identify a connection between growing numbers of domestic animals (and particularly cattle), the more extensive consumption of meat in feasts, a demand for more labour, and the recruitment of personnel from other communities. As the Neolithic slowly changed its character, it began to provide more attractive opportunities for members of Mesolithic groups: the acquisition of meat, and later prestige goods; providing labour, in exchange for goods; joining communities that had more reliable sources of food. It is likely that the Mesolithic societies of Europe were diverse, with different degrees of social differentiation, different subsistence regimes and different patterns of mobility. Many of them may have been relatively egalitarian, and strongly averse to the acquisition of wealth. Yet the proximity of Neolithic societies is likely to have been corrosive of these arrangements, implanting the desire for goods and prestige through various forms of contact. It was the social transformation that this engendered, towards bounded wealth-holding groups, which enabled Mesolithic communities to adopt agriculture. However, as in the case of Swifterbant, it is clear that they sometimes chose to combine wild and domesticated resources rather than become entirely dependent on cultivation and herding.

While the initial arrival of the Neolithic in Europe may have involved large-scale population movement, this need not always have had the intrepid but unguided character of Polynesian voyaging. Setting off into the unknown is a poor strategy, precisely because knowledge of the landscape being entered is the single factor that is most important for the success of resettlement. A farming community that transports itself into an unfamiliar landscape is at great risk of not surviving beyond the first winter. We have seen that almost without exception, where there is evidence for Neolithic migration it was prefigured by protracted contact and exchange with local groups. The relocation of social groups may therefore have involved advanced planning, negotiation, cooperation, and the exchange of information and goods with indigenous communities. This picture harmonizes with the comparative lack of evidence for violence between Mesolithic and Neolithic communities in Europe, despite conflict *amongst* hunters and farmers that may have approached endemic levels (Schulting and Fibiger 2012). In the Mediterranean zone, the evidence that movements of population were driven by demographic pressure is not always strong, and alternative possibilities include groups 'budding off' in order to escape emerging authority structures. In Iberia, too, there are strong indications that small agricultural communities arrived by sea, remaining for centuries as coastal 'enclaves' in close proximity to hunter-gatherer groups. The 'enclave' pattern of settlement can also be identified in other areas in which Mesolithic and Neolithic groups maintained their separate identities, as in Poland and western France. But at the same time, the very swift expansion of the LBK across central Europe can arguably be attributed to a pattern that combined population movement with the recruitment of indigenous personnel, and here too it seems that settlement relocation took place into landscapes in which relationships with local people had been established long in advance.

All of this demonstrates that the character of relations between Mesolithic and Neolithic societies was extremely variable throughout the continent. The 'enclave' pattern suggests coexistence and presumably some degree of contact, although with many hunter-gatherers resisting assimilation. Yet in the Adriatic zone it appears that maritime colonists on the coast facilitated the piecemeal adoption of Neolithic traits by indigenous people in the hinterland. In the Low Countries, domesticated plants and animals were incorporated into a hunting and gathering economy, resulting in a very gradual change to a Neolithic way of life, but in Scandinavia there seems to have been more resistance, until the more rapid onset of the Neolithic. Where Mesolithic and Neolithic groups interacted over a prolonged period, 'hybrid' social and economic formations sometimes emerged, which drew on the practices and traditions of each. For this reason it may be helpful to reconsider the notion of a 'Neolithic frontier', for it appears that intensive contact often resulted in cultural innovation. In northern Europe, with the Michelsberg and the TRB, it has been argued that the emergence of such a fusion of traditions facilitated the merging of farming and hunting populations (Nowak 2006: 148; Louwe-Kooijmans 2007: 297).

As we have already noted, while Neolithic societies in Europe were extremely diverse, they were generally characterized by a new kind of relationship between humans and non-humans. While Mesolithic people may have understood animals to be human-like, and their relations with them were social ones, they remained separate from human communities. In the Neolithic, both plants and animals

could become integral to social formations, rather than being appropriated at the point of hunting or harvesting. The other component of this change was an enhanced socialization of inanimate things. Although post-glacial hunters had been deeply embedded in and attuned to their material world, there was a qualitative difference in the ways in which Neolithic people used material things to articulate social relationships, to extend human presence, and to frame and channel social interaction. We might say that while Mesolithic societies were principally composed of relationships amongst people, and that they operated in worlds of animals and things, Neolithic societies became heterogeneous meshworks in which people, things, and animals were mutually implicated to a greater degree. Neolithic societies are consequentially more archaeologically visible: their material component manifests itself as tell mounds, longhouse settlements, ceramic assemblages, and monumental structures. Neolithic societies 'made themselves at home' in the world through the construction and use of material things. In the case of the LBK, it was a standardized assemblage of buildings and artefacts that provided the framework for integrating what may have been otherwise very diverse human populations. For Körös communities, pits filled with habitation debris embedded a human presence in the landscape. In northern France and on the North European Plain, long mounds monumentalized the fusion of Mesolithic and Neolithic traditions. In the context of these developments, it may be unhelpful to identify domesticated plants and animals as parts of a separate economic base or infrastructure, and award them priority over artefacts and architecture that occupy an ideological superstructure. Both were aspects of a unified social change, in which the relations between humans and non-humans were transformed. This had profound implications for the process of social reproduction.

THE TRANSFORMATION OF MESOLITHIC BRITAIN

Although the Mesolithic societies of Scandinavia did not perfectly fit the model of 'complex hunters', arguments have been made for the intensification of subsistence practices, a degree of residential stability, and growing social asymmetry in Denmark and southern Sweden (Rowley-Conwy 2003). It is more difficult to make the same case for Britain, and for this reason there are important differences between the two regions, as far as the beginning of the Neolithic is concerned (*contra* Bradley 2008: 44; Sheridan 2010b: 90). In Britain the Mesolithic was neither sedentary nor strongly hierarchical, and there is little evidence that population was progressing rapidly towards carrying capacity, with demographic pressure forcing economic change. The argument that has been made in the Scandinavian case is that the Ertebølle had developed a complex and robust economic strategy, which represented a viable alternative to farming, until such a time as this was undermined by environmental change (Zvevbeil and Rowley-Conwy 1984). In Britain, the later Mesolithic seems to have been characterized instead by a great diversity of subsistence practices, including encounter hunting of ungulates, burning of vegetation, the transportation of mammals onto offshore islands, the exploitation of shellfish, wildfowling, sea-fishing, seal-hunting, and offshore whaling. Not all of these were engaged in by any one community. This

suggests a continuum between immediate- and delayed-return strategies, as well as diverse cycles of seasonal activity, which were presumably matched by varying patterns and degrees of mobility. Like most hunters and gatherers, it is to be presumed that Later Mesolithic communities in Britain were to some extent committed to sharing and mutual generosity. This much is suggested by the 'multiple authorship' of projectile points (Finlay 2003), which seems designed to limit the extent to which any one person could claim the right to control and distribute the meat of a slain animal. The wide range of subsistence activities being pursued would have made it unlikely that people in Britain would have needed to adopt domesticates at the first possible opportunity. No single resource crisis would have demanded universal economic change. It is more likely that the earliest contact with Neolithic communities on the continent would have precipitated a protracted internal struggle between traditional social norms and a growing desire for the acquisition of wealth and the enhancement of social standing.

Mesolithic people in Britain were routine users of boats, who had colonized the northern isles and moved large (and living) cargoes around the coasts. They frequently acquired the raw material for stone tools by crossing the sea, and some people probably achieved notoriety or distinction by undertaking perilous long-distance voyages. It seems inconceivable that they would not have been in at least sporadic contact with the continental landmass. This, of course, would have been a two-way process, and it is likely that continental mariners were also visiting Britain at this time. Amongst the very diverse Mesolithic ways of life in Britain, people who built sea-going vessels and used them to acquire food, maintain far-flung contacts, and exchange information would presumably have been more immersed in delayed-return economics than their land-based contemporaries. It follows that among the first British people to encounter domesticates and Neolithic material culture might have been ones who were already developing an interest in the accumulation of collective property. Interaction with continental Neolithic groups may have further stimulated these tendencies in Mesolithic society. From the early fifth millennium BC, when Villeneuve-Saint-Germain settlements were established in Normandy, and increasingly after 4300 BC when Neolithic groups were present in the Pas-de-Calais, the conflict between the inherited values and practices of hunter-gatherer society and the allure of new foods, artefacts, and species would have gathered force, as people and goods moved back and forth across the Channel, in visiting, exchange, marriage, apprenticeship, and clientage relations. The first Neolithic objects to have been exchanged are likely to have been ones of great value and significance, which may have been important for securing trans-marine alliances and agreements to the benefit of continental Neolithic communities hungry for labour, marriage partners, wild animal products, and raw materials. Yet the meaning of such objects is likely to have been transformed as they crossed the sea, and as they were incorporated into a different value system. In Chapter Eight it was suggested that such pre-eminent valuables, acquired in small numbers in the fifth millennium BC, might have included jade axes. Both the circulation of these items, and the increasing familiarity of a minority of people with Neolithic skills and practices, will have had a subtly erosive effect on established traditions and forms of authority in Britain.

Rather than a particular point in time at which separate groups of people began to migrate from the continent, what is suggested here is a continuous flow of

single persons, or very small groups, back and forth between stable communities on either side of the Channel, over a very lengthy period of time. For much of the past century, folk movements have been invoked as a major explanation for cultural change throughout British prehistory (Renfrew 1974: 11). Yet in the case of the primary Neolithic the recurring problem for such an interpretation has been the lack of a precise relationship between the British material and any single assemblage with a specific geographical location on the continent. As Sheridan writes (2010a: 191), the British Early Neolithic was ‘many-stranded’, but instead of seeing a series of separate groups arriving from different parts of the continent it is proposed here that skills, artefacts, ideas, resources, and practices were acquired through a complex and overlapping web of innumerable contacts between British people and populations dispersed from Armorica to Jutland and Scania. While there was a tendency for artefacts and monuments in western parts of Britain to demonstrate an affinity with northern France, and for those in the east to suggest connections in the Michelsberg and TRB zones, this was not exclusively the case. For the dominant cultural process at work was one of selection, filtering, recombination, and *bricolage*. Thus the ceramic assemblage dominated by carinated bowl forms is hard to precisely match anywhere on the continent, and represents a selection from more diverse continental assemblages. Something similar can be said of the primary Neolithic stone tool assemblage in Britain and also, interestingly enough, the range of crops that was introduced. British people were identifying cultural resources that were distinctively Neolithic, and yet combining them in ways that were insular, bringing new identities into being. In the case of pottery, the restricted range of vessel forms used in the fortieth and thirty-ninth centuries BC was eventually broadened as ceramics began to be used in larger numbers and in a wider range of practices, and continental prototypes continued to be drawn on in the process. The plurality of the contacts involved in the inception of the British Neolithic is also evident in the architectural diversity of the earliest monuments that were constructed. Not only did they emulate structures from both the west of France and the TRB province, they often combined elements from different areas, as with the addition of concave forecourts to chambered long cairns. Diversity was also present from the start in the scale or complexity of monumental construction. It does not seem that the earliest tombs and barrows in Britain were uniformly small and simple, gradually increasing in size and elaboration. This is because a wide range of architectural forms already existed on the continent, and could be drawn on for inspiration without the need to reiterate any particular developmental process.

THINGS AND PRACTICES

It has become conventional in recent years to distinguish between ‘gradualist’ accounts of the Mesolithic-Neolithic transition in Britain, which emphasize the indigenous contribution, and ‘rapid’ colonization models (see, for instance, Stevens and Fuller 2012: 707–8). This book has argued for a more subtle appreciation of the temporality of change, in which different aspects of transformation proceeded at different velocities, and in which the initial innovations of the

Neolithic were followed by a series of unintended consequences played out over a very long time. Pottery, cereals, livestock, polished axes, leaf-shaped arrowheads, and timber buildings were not all adopted simultaneously in all regions (Whittle, Healy, and Bayliss 2011: 840). In some areas, but not others, there appears to have been a 'pre-monumental' Neolithic, while earthwork enclosures were introduced to Britain some 300 years after the first of the other elements. Furthermore, the first traces of a Neolithic way of life arrived in the northern and westernmost fringes of Britain more than three centuries after they appeared in the south-east tip of the island, and societies that were fully dependent on horticultural production did not emerge until the middle of the Bronze Age (Stevens and Fuller 2012: 717). So whether we consider that the Neolithic transition was 'fast' or 'slow' depends very much upon how we define a society as Neolithic: when it has simply acquired a few traits, or the whole paraphernalia of Neolithic life; when these elements become essential for a community's reproduction, or when they become fully agricultural and/or sedentary?

One very important point is that nowhere in Britain do we see traces of groups who were combining aspects of the Mesolithic and Neolithic cultural assemblages (microliths with pottery, or tranchet axes with monuments) (Schulting 2000). This was despite wild and domesticated resources being exploited alongside each other, and despite Mesolithic artefacts being curated and Mesolithic places being venerated during the Neolithic. The implication of this is that some component of the change from Mesolithic to Neolithic was not only relatively swift, but was fully understood by the participants at a discursive level. In other words, there must have been an active decision to 'become Neolithic' (whatever that entailed), presumably demanding discussion and negotiation within the community. What this probably involved was an identity process, in which a social group resolved to immerse itself in one network of contacts and relationships, while relinquishing another: ceasing to 'be Mesolithic'. By contrast, the longer-term outcomes of these choices were probably neither appreciated nor anticipated at the time.

From the point of view of the archaeologist in the present, the Neolithic is apprehended as an assemblage of material things: artefacts, structures, animal bones, and botanical remains. But it is immediately obvious that these entities were caught up in a series of practices, ranging from cultivation and herding to mining, potting, cooking, and flint-knapping. The Neolithic should therefore not be identified exclusively as a set of objects, but as something that was *performed*. However, it is important to consider what the relationship between Neolithic things and practices might have been. Some insight here comes from Shirley Strum and Bruno Latour's discussion of what they call 'soft' and 'hard' societies (1987: 791). Strum and Latour question the conventional wisdom that human societies automatically represent fixed structures to which human beings accommodate themselves from birth onwards. On the contrary, social life generally involves a process of testing and negotiation, in which people continually seek to define the parameters of the social situation within which they find themselves. They actively perform and create their society as they go along, influencing others and enlisting their help, rather than passively inhabiting a pre-existing set of given circumstances. Where people have few material resources beyond their own bodies, this process of negotiation and discovery is complex, and demands highly

developed and sensitive social skills. However, where human beings have an advantage over non-human primates lies in having a rich inheritance of custom, tradition, and cosmology to draw upon, including learned but habitual skills and practices that enable them to identify appropriate forms of conduct without the need for deliberation. Undoubtedly, this kind of combination of skills and resources would have been available to people during the British Mesolithic. Artefacts were often limited to what could be carried, but social relationships were complex and extensive, with networks of mutual aid and kin ties extending over large areas, while social action was guided by inherited rules and conventions. Furthermore, Mesolithic people would have had a subtle appreciation of their own place in a world of places and creatures, all of which may have been understood as imbued with life force and sociality.

Strum and Latour contrast the 'soft' social skills of hunters and gatherers with the 'hard' resources of societies that exchange complexity for *complication*. Under these circumstances material things and symbolic systems intervene in social life, reducing the amount of negotiation and probing involved in everyday activities (1987: 795). More effort is invested in the manufacture of material things, and less in working out and transforming the social environment from moment to moment. 'Hard' societies (including those of the contemporary West) grow a kind of carapace of language, symbols, and material things, which channel human interaction while rendering particular relationships and practices more durable. These societies are no longer exclusively composed of relationships between people, because material things now articulate, clarify, and amplify social relationships. Moreover, the emerging pattern of things and symbols increasingly forms a stable context into which people are born, and through which they are socialized and achieve maturity. In a 'hard' society, the social world gives a greater impression that it pre-exists social actors, and it has a momentum that extends beyond their individual lives. In previous accounts of the period, the Neolithic has been characterized as a new mode of subsistence production, upon which a variety of social and cultural developments were based (Childe 1934: 2), or as an ideational system which paved the way for the domestication of plants and animals (Hodder 1990). What is suggested here by contrast is that the beginning of the British Neolithic saw a change in the character of the bonds that held societies together. The incorporation of artefacts, architecture and animals into societies had the effect of stabilizing social relations and extending their duration, while enhancing the separation between different social units.

ACCUMULATION, FOUNDATION, BUILDING, AND PLACE

We have argued that one of the most significant developments at the beginning of the Neolithic will have been the transformation of relatively acephalous and amorphous communities of hunter-gatherers into more tightly defined property-owning corporate groups. This change facilitated both the accumulation of livestock, and that of other forms of wealth. In Chapter Seven we noted that this process was matched by the growing importance of middens as locations for the gathering-together of material things, in contrast to the predominant Mesolithic

pattern of dispersal of artefacts and human remains. Middens contained the durable traces of past generations, elements of which could be withdrawn for further use. Similar themes of the acquisition and accumulation of wealth were also evident in flint mines, another new kind of location at which the creation of value was tightly regulated through an architecture that laid down the conditions for the performance of extraction. Both mines and middens gave a tangible quality to the continuity of practice through time, and served as reminders of shared activities that had taken place in the past. However, of all the new places and structures that were brought into being at the start of the Neolithic, timber halls are of particular significance, because they arguably relate to the foundation of new social entities. In Britain, halls or houses began to be constructed a generation or so after the first appearance of Neolithic artefacts in any given region, which casts some doubt on the view that they were the initial dwelling structures of pioneer communities newly arrived from the continent (Sheridan 2008: 3). Drawing on the concept of the 'house society', it is possible to identify a widespread pattern in which the building of elaborate dwelling structures coincides with the formation of corporate social units, which is reflected in the symbolism of inserting timbers into the ground. House societies are social groups that share claims on an estate of collective property, and they tend to form at times of rapid social and economic change. It was argued that the creation of these bounded communities provided a means by which livestock, cereals, prestige goods, and other valuables could be built up without being depleted by the demands of generalized reciprocity.

Seen in these terms, the importance of large, earth-fast pairs of oak uprights as the primary element in the wooden mortuary structures found beneath many earthen long barrows can be reassessed. In some cases, the split-trunk posts are demonstrably earlier than the rest of the structure, and it was suggested that these were effectively 'shrines' which echoed the emphasis on foundation and coming-into-being observed in the timber halls. Equally, the architectural affinities between halls, long barrow façades, post avenues, and timber cursus monuments demonstrates that the house served as a potent cultural reference, even where there was no suggestion that these structures were intended to be occupied. In the case of the timber mortuary structures, the assumption has generally been that the building primarily existed as a container for the dead. The alternative suggested here is that the remains of the dead were added to what we might refer to as 'house shrines' as a means of lending them greater potency and legitimacy. One of the surprising results of recent high-precision dating of human remains from long barrows and chambered cairns has been the recognition that the deposition of bones and bodies took place over a relatively short period: decades rather than centuries (Whittle et al. 2007). This suggests that rather than collective tombs that were in use for many generations, these monuments contained 'founding ancestors', the members of a community who died during a critical period in which the group was in the process of defining itself more rigidly. So rather than 'houses of the ancestors', set apart from the concerns of the living, it is conceivable that barrows and cairns were enduring symbols of collective identity, which actually united the living and dead generations.

Halls, chambered cairns, long barrows, and post-built cursus monuments all contributed to a gradual upsurge of building practices during the first 300 years of

the British Neolithic. In Chapter Five we demonstrated that it is perfectly possible for hunters and gatherers to create monumental works, and there are a growing number of pit and post alignments of Mesolithic date now known. The comparative increase in construction from the start of the Neolithic onwards was not only attributable to a greater ability to mobilize labour, but also to an imperative to create durable architectural spaces as part of a new social reality. As we have seen, timber halls represented a mechanism through which new social entities were brought into being, but other structures provided the settings for new kinds of performance, or canalized and choreographed existing social practices. It is noteworthy that the British halls became larger, more monumental and more structurally elaborate as time went on, and that the Scottish examples such as Balbridie and Claish showed a growing concern with seclusion, and with carefully orchestrated patterns of movement through space. A related aspect of the earliest Neolithic architecture in Britain is the proliferation of screens, façades, and fences, often found beneath long mounds, as at Hazleton and Eweford. These also betray a concern with framing or staging social activity, while creating spaces that were hidden or occluded, dividing access to performance and communication. In a different way, the Sweet Track can also be identified as an example of building practices that laid down the conditions for movement and action, so that subsequent acts become repetitive and routinized. Following Strum and Latour's argument we could conclude that one of the main roles of architecture in the primary Neolithic was to regulate social interaction, rendering the outcomes of both ritual performance and everyday conduct more predictable and less risky.

While much of this constructional activity was new, it also built upon place-making activities that stretched back into the Mesolithic. We have seen that during the Mesolithic people developed closer relationships with specific locations, through patterns of repeated return and re-use, through deposition, and by carrying or wearing items such as stone tools, beads, and pendants which embodied the substance of a particular place. While Mesolithic 'persistent places' emerged out of the rhythm of cyclical return and the accretion of experience, Neolithic places were more likely to be brought into being through transformative actions. Aside from timber buildings, earthen mounds, and stone cairns, Neolithic people made lasting marks on the landscape by digging pits and throwing up middens. These acts both commemorated episodes of gathering or dwelling, and created the conditions for future periods of inhabitation. Just as the timber halls represented the lasting material core for a new kind of human society, so increasingly the landscape as a whole began to provide the material 'scaffolding' for everyday life. Movement between locations, and the activities that were appropriate at each could grow more habitual and unconsidered, rather than tentative and experimental. In some cases, the significance of a place gradually came into focus through a series of episodes of activity, as with many of the long barrow sites, where the raising of the final mound was preceded by numerous more ephemeral actions. At other sites the Mesolithic past was deliberately incorporated into the Neolithic world, as at Fir Tree Field, Gwernvale, Hazleton, and the Oban caves. Some importance was seemingly attached to places that anchored the present reality in continuity with the past. Despite this, as we saw in particular with the Coneybury Anomaly, the kind of Neolithic occupation that we can identify at

most of these sites is episodic, full of gaps and holes, and clearly only represents a fragment of a more elusive pattern (McFadyen 2008).

HERDING COWS AND 'BEING NEOLITHIC'

If Mesolithic communities in Ireland had at some point acquired a small number of cattle (Woodman and McCarthy 2003), this would not have made them Neolithic people. It follows that the possession of domesticated plants and animals is not in itself the hallmark of 'being Neolithic'. Rather, a Neolithic group was one that possessed the necessary skills for husbandry and cultivation, and which was internally structured in such a way as to enable those species to thrive and multiply. This social change did not rigidly determine the form that economic practice might take, so a Neolithic society might be fully dependant on crops and livestock, but might equally use only wild resources, or any combination of the two. On the other hand, it is quite unlikely that any Mesolithic society could accumulate domesticated resources without having experienced a profound social transformation. The relationships that hunter-gatherers maintain with animals are social ones, and the respectful treatment that they offer to the creatures that they kill and eat could be compared with an encounter with a guest from another social group. Yet wild animals do not *belong* to human societies. When animals are domesticated, they do not become 'more social', so much as becoming members of a human community, comparable to children, dependents, or slaves. Relations between animals and humans become continuous, rather than episodic. Domestication thus draws animals into human groups, and makes them into a kind of kin (Russell 2012: 248).

In the case of Neolithic Britain, a 'set' of domesticated animal species were introduced simultaneously, and while they were complementary to each other in terms of the benefits that they offered to humans, they were probably not kept together in mixed herds, or even in the same parts of the landscape. Pigs appear to have been run in the woods, and sheep may have been herded with dogs, while larger numbers of people were needed to tend, guard, and milk the cattle. Cattle were important from the beginning, and may always have had a special value, yet their numerical pre-eminence intensified over a period of 200 or 300 years. The conceptual proximity of cows to humans is suggested by the special treatment that their remains were afforded in long barrows and causewayed enclosures, and it is notable that the two species whose bones were most likely to be curated for long periods during the Early Neolithic were cattle and deer, as in the case of the already-ancient skeletal elements deposited in the primary ditch at Stonehenge (Cleal, Walker, and Montague 1995: 529). This hints that at the start of the Neolithic cattle effectively supplanted deer as the species that was most closely related to humankind. Cattle were carefully kept separate from wild aurochs, and not allowed to inter-breed. This implies that their bloodlines were a source of some concern, or pride. The composition of a community's herd served as a physical record and reminder of collective history, in the form of animals that had been acquired in marriage payments, in exchanges, as blood-price, or in raiding. In this sense, cattle herds represented another way in which Neolithic societies

were stabilized: a group that was attached to a body of collective wealth was less likely to fragment, and shared ownership of assets bonded generations together. While they contributed to the durability of social groups, cattle as material and symbolic capital also represented a store of potential that could be used in a variety of ways, from feasting to the acquisition of marriage partners and clients. It is the variety of different ways in which cows could be used to generate social advantage that probably brought about their growing importance during the earlier fourth millennium BC.

We have argued here that livestock in general, and cattle in particular, may have been one of the principal factors that attracted hunters and gatherers to the Neolithic way of life. Cereals were added to the wild plants that continued to be gathered, and both were of dietary significance, but perhaps less so than livestock. A narrower range of crops appears to have been grown than in much of the European continent. At Warren Field (Tipping et al. 2009) it seems that cereals may have been planted surrounding a timber hall in an area that had been recently cleared of woodland. But in the absence of such a structure it is more likely that small garden plots will have been fitted into existing open spaces in a patchwork landscape. The Warren Field building may not have been occupied by a large community that remained resident throughout the year, and this underlines the point that we should not expect the earliest Neolithic people in Britain to have been small domestic groups, each conducting precisely the same range of subsistence tasks. In this respect, the British Neolithic was quite different from that in Greece and Bulgaria. If different animal species were grazed in different landscape zones, cereals gardened, and wild plants gathered, it is probable that these activities were undertaken by task groups that were integrated at a higher level. The Early Neolithic 'house society' was much larger than a nuclear family. The first three centuries of the British Neolithic seem to have been diverse, tentative, and experimental in economic terms, with wild and domesticated resources combined in different ways. Large assemblages of cereal grains are known from this period, but they all appear to have been deliberately deposited. By the thirty-seventh century BC, though, cereals started to decline, at much the same time as causewayed enclosures began to be constructed, and more large-scale exchange networks circulated items such as polished stone axes, Gabbroic pottery from Cornwall, Portlandian chert and flint from Beer Head in Devon (Smith 1971: 102; Whittle, Healy, and Bayliss 2011: 897). It appears that social networks were only increasing in scale by this time, and this coincided with the emergence of fully-developed regional cattle economies (Legge 1981). The period of economic experimentation was replaced by a more stable pattern, in which large, seasonally mobile herds providing dairy products and meat were combined with the exploitation of wild plants, and smaller quantities of cereals. This picture on the British mainland contrasted with a very different regime on some of the Scottish islands, in which year-round sedentism with substantial stone houses was complemented by intensive cereal agriculture, and relatively small numbers of livestock. It is with the development of these regional economies that the concerns of this book come to an end.

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